CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

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VOL. XI.

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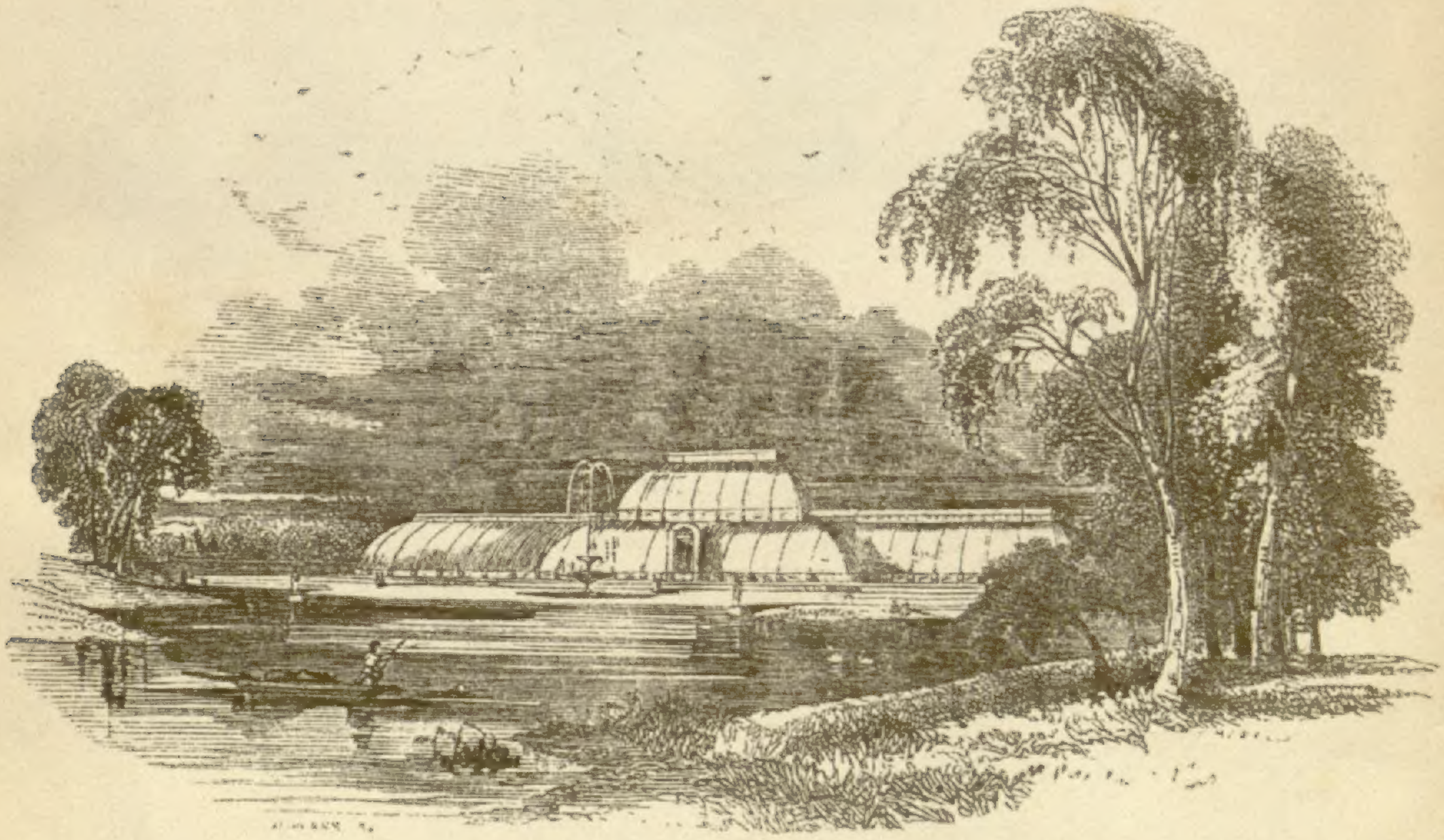
(Or Vol. LXXXI. of the Whole Work.)



"Another Flora there, of bolder hues
And richer sweets, beyond our garden pride,
Plays o'er the fields, and showers with sudden hand
Exuberant spring."—*Thomson.*

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TO

DR. THOMAS THOMSON, M.D., F.R. & L.S.,

SURG. H.E.I.C.,

SUPERINTENDENT OF THE

HON. EAST INDIA COMPANY'S BOTANIC GARDEN OF CALCUTTA,

THE WORTHY SUCCESSOR OF

A ROXBURGH, A WALLICH, AND A FALCONER,

The present Volume is Dedicated

AS

A TRIBUTE OF AFFECTION AND ESTEEM

BY

THE AUTHOR.

Royal Gardens, Kew,
December, 1855.

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Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4825.

DIPLADENIA Harrisii.

Lord Harris's Dipladenia.

Nat. Ord. Apocyneæ.—Pentandria Digynia.

Gen. Char. (*Vide supra*, Tab. 4702.)

Dipladenia *Harrisii;* scandens fruticosa glabra, foliis amplis oblõngo-ovatis acuminatis, racemis axillaribus folio brevioribus, floribus ante expansionem nutantibus, lobis calycinis ovatis obtusissimis intus squamula laterali auctis, corolla tubo inferne constricto basi inflato, squamis hypogynis 5 subdigitatis basi in cupulam ovaria superantem unitis, staminibus ad constrictionem tubi corollæ insertis, antheris villosis.

Dipladenia Harrisii. *Purdie, MS.*

An inhabitant of the banks of the Caroni, and to the eastward of Mount Tamana, Trinidad, where it was recently discovered by Mr. Purdie, the intelligent superintendent of the Botanic Garden of that island. Dried specimens and excellent drawings by Miss Fuller and Mr. Cazabon, and descriptions and living plants, were at once sent to us by its discoverer, and from them we have profited, as well as from superb flowering specimens sent to us by Messrs. Veitch and Sons, who are the first to have flowered it in Europe, in September, 1854. Mr. Purdie well observes of it:—"This fine plant is not surpassed by any one of its congeners, whether we consider the size and beauty and fragrance of its flowers of metallic lustre, or its entire habit." The very buds are handsome, large and drooping, with a blending of red into a full and clear yellow, which colours however become more brilliant in the fully expanded corolla. The very blunt calycine segments, and the peculiar nature of the hypogynous glands, forming together a rather large lobed and fimbriated cup, differs, as Mr. Purdie justly observes, from most of our known *Dipladeniæ;* but we apprehend it as good a *Dipla-*

denia as many of the species referred to it. It is, we need hardly add, a stove plant, and a more highly ornamental one can scarcely be imagined; most appropriately named in honour of Lord Harris, the late able Governor of Trinidad, and a great friend to science. The following is chiefly from Mr. Purdie's accurate notes.

Descr. Fruticose, scandent, branched; *branches* glabrous, terete. *Leaves* opposite, the largest of them ten to fifteen inches long, four to five broad, oblong, approaching to ovate, tapering to a point, submembranaceous, pinnately veined, often purplish beneath. *Petioles* scarcely an inch long, stout. *Racemes* axillary and terminal. *Pedicels* often an inch long, red, bracteated, curved downwards so as to be quite subsecund, while the flowers are in bud. *Calyx* of five, deep, subimbricated, ovate, obtuse, slightly concave, green *lobes* or *segments* lying close to the swollen base of the corolla: each has within, at the base, near the margin, an orbicular toothed *scale;* two of the lobes are smaller than the other three. *Corolla* large, handsome, fragrant, full glossy yellow, the tube tinged externally with red, and internally streaked with the same colour, forming bifid rays on the limb, which latter is three and a half inches across: *tube* funnel-shaped, contracted below, the base itself swollen or inflated and five-ribbed, *lobes* of the *limb* large, spreading, subrotund. *Stamens* included, inserted at the constriction near the base of the tube; *filaments* short, downy; *anthers* sagittate, hairy at the back, each side below terminating in a spine. *Ovaries* two, glabrous, surrounded by five large fimbriated or almost digitated *glands*, united at the base into a cup. *Styles* united; *stigma* clubbed, bifid at the apex, sheathed by the anther.

Fig. 1. Section of the base of the corolla. 2. Pistil and the hypogynous glands. 3. Two of the calycine lobes. 4. Stamen seen from within:—*magnified.*

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W Etch. del. et lith.

Vincent Brooks Imp.

Tab. 4826.

HOYA (Otostemma) lacunosa.

Furrowed Hoya.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. (*Vide supra*, Tab. 4347.)

Hoya (Otostemma) *lacunosa;* scandens radicans, foliis mediocribus carnoso-coriaceis ellipticis basi apiceque acuminatis petiolatis obscure penninerviis nervis immersis, pedunculis solitariis interpetiolaribus, umbellis multifloris planis, laciniis calycinis ovatis marginibus carinaque denticulatis, corollæ rotatæ carnosæ velutino-villosæ lobis triangularibus demum reflexis, coronæ stamineæ foliolis navicularibus concavis.

Hoya lacunosa, *Blume, Bijdr. p.* 1063. *Dcne. in De Cand. Prodr. v.* 8. *p.* 638. *Blume, Rumphia, v.* 4. *t.* 184. *f.* 2.

Otostemma lacunosum. *Blume, Rumphia, l. c. p.* 30. *Mus. Bot. Lugd. Bat. v.* 1. *p.* 59. *f.* 11. *Walp. Annal. Bot. Syst. v.* 3. *p.* 65.

A native of the trunks of trees, not only in Java, but in other islands of the Indian Archipelago, according to Blume. In habit and mode of growth this species reminds one of the *Hoya Bella*, figured at our Tab. 4402; but it is much less elegant and attractive, and wants the pink eye which gives such effect to that species. The Indian Archipelago abounds in species of the genus once ranked under *Hoya*, and even by Blume himself; but this genus is now, by that author, divided into several genera; and to the present species he has, in the letterpress to his 'Rumphia' above quoted, but not on the plate, given the generic name of *Otostemma*.* "Ab *Hoya*," he says, "recedit dentibus

* "Calyx 5-partitus. *Corolla* rotata, quinquefida, laciniis revolutis. *Corona staminea* pentaphylla, gynostegio elevato adnata; foliolis navicularibus, carnosis, divaricatis, supra concavis, angulo interiore in dentem antheram superantem producto, subtus appendice deorsum bidentata auctis. *Antheræ* stigmati incumbentes, apice simplices, acutæ. *Pollinia* basi affixa, erecta, approximata, linearia, compressa. *Stigmata* obsolete apiculata. *Folliculi* læves. *Semina* plurima, ad umbilicum carnosa.—Herba *Archipelagi Indici, in arboribus radicans;* foliis *oppositis v. rarius verticillatis, carnosis, glabris;* umbellis *longiuscule pedunculatis;* floribus *parvis, albidis.*" *Blume.*

coronæ stamineæ super antheras protractis, cujus foliola subtus esulcata singula appendice bidentata sunt prædita, necnon antheris simplicibus haud membrana terminatis;" and he adds, "Alias quoque stirpes sub *Hoya* militantes ad hoc genus referendas esse probabile videtur; qua de re diligens florum exploratio docebit."—Not being aware of the minute differences at the time our drawing was made (March, 1854), our artist's attention was not directed to them; and perhaps science will not suffer by considering *Otostemma* a group or section of *Hoya*, at any rate till we are better acquainted with its affinities. The flowers are fragrant, which is a recommendation. We owe the possession of the plant at Kew to Mr. Lowe, of Clapton.

Descr. A climbing *shrub*, with green branches, two to three feet in length; *branches* terete, throwing out *roots* from various points, especially where the leaves are inserted. *Leaves* opposite, elliptical, lanceolate, between coriaceous and fleshy, acuminated, marked above with a depressed line or midrib, and with a few horizontal depressed veins (whence the name, we presume, of *lacunosa*). *Petioles* short, thick. *Peduncles* interpetiolary, generally shorter than the leaf, solitary, bearing a flattened umbel of numerous *flowers*. *Pedicels* thickened upwards. *Calyx* of five, ovate or elliptical, rounded *lobes*, denticulate on the margins and keel. *Corolla* rotate, greenish-yellow, the five *lobes* eventually reflexed, the inner surface clothed with a circle of velvety hairs. *Staminal crown* of five, spreading, lanceolate foliola, concave at the top and embossed in the centre.

Fig. 1. Leaf. 2. Flower. 3. Calyx and pistils:—*magnified*.

Tab. 4827.

ESCALLONIA pterocladon.

Winged-branched Escallonia.

Nat. Ord. Saxifrageæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4473.)

Escallonia *pterocladon;* fruticosa ramosissima, ramis alte sinuato-alatis alis ciliatis, foliis brevi-petiolatis parvis lanceolatis coriaceis nitidis glaberrimis glanduloso-serratis, floribus numerosissimis axillaribus solitariis nutantibus secundis spicas foliosas formantes, pedicellis brevibus bracteolatis, calycis tubo turbinato lævi laciniis triangulari-subulatis marginibus parce glandulosis, petalorum unguibus in tubum cylindricum approximatis, stylo basi glandula epigyna (seu toro) magna apice laciniata vaginato.

"A decidedly hardy shrub, four to five feet high, an abundant bloomer, and fragrant." These are recommendations for a bushy plant with leaves like a small-leaved myrtle, and very pretty, almost Epacris-like flowers, white tinged with red. It inhabits Western Patagonia, where it was detected by Mr. Wm. Lobb; and it flowered in the open border at the Messrs. Veitch and Son's Nursery in July, 1854. There are two South Chilian species of this genus described and figured by Pöppig, viz., *Escallonia alpina* and *E. florida* (Nov. Gen. et Sp. t. 13 et 14); but the former has obovate leaves, and only a few terminal, erect flowers upon the branches: the latter is extremely different in the structure of the flowers, and neither of them has the curiously-winged branches. These wings indeed, in a measure, disappear on the older branches and stems, for they crack and peel off.

Descr. A small much-branched *shrub*, with spreading *branches:* the old wood clothed with loose, cracked, papyraceous bark: the *branches* red, straight, rigid, singularly angled, and winged with vertical alæ, which are sinuated and downy or fringed at the edge. *Leaves* scattered, copious, small, the largest of them less than half an inch long, patent or often reflexed, permanent, lanceolate, acute, coriaceous, dark-green, shining, penni-

nerved, subglanduloso-serrate, tapering below into a very short *petiole*. *Flowers* copious on all the younger branches, solitary from the axils along their whole length, secund, drooping: the *leaves* however pass into minute bracteas at the apex; so that a whole branch may be considered a leafy raceme. *Pedicels* short, red, bearing two, lanceolate, opposite *bracteoles*, with very conspicuous glandular serratures. *Calyx-tube* quite glabrous, turbinate, even (not angled), the lower half incorporated with the ovary, the *limb* or free portion divided half-way down into five acuminated teeth, with two or three glandular serratures on their margins. *Petals* spathulate: the *claws* broad, erect, and so approximate as to form a cylindrical tube, white, tinged with red: the *lamina* obovate, spreading. *Stamens* included. *Style* thick, broader upwards, as long as the claws of the petal, for one-third of its length sheathed by a *torus* or large epigynous gland, fimbriated at the apex. *Stigma* large, peltate.

Fig. 1. Portion of a winged branch, with leaves, and a flower. 2. Flower from which the stamens and petals, and part of the calyx, are removed. 3. Petal:—*magnified.*

Tab. 4828.

DIPLADENIA ACUMINATA.

Acuminated Dipladenia.

Nat. Ord. Apocyneæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4702.)

Dipladenia *acuminata;* fruticosa scandens glaberrima, foliis brevi-petiolatis elliptico-ovatis breviter acuminatis reticulatim venosis basi cordatis, squamis stipulaceis carnosulis laciniatis, racemis terminalibus (axillaribusque?) plurifloris, pedicellis elongatis (demum spiraliter tortis), laciniis calycinis longe subulatis strictis erecto-patentibus tubi corollæ parte cylindracea contracta dimidio solummodo brevioribus, corollæ tubo superne campanulato limbi lobis insigniter acuminatis.

To Messrs. Veitch and Son, of the Exeter and the King's-road (Chelsea) Nurseries, we are indebted for the specimen of the very beautiful Brazilian *Dipladenia* here represented, in July, 1854. We confess that, on a cursory glance, we were led to consider it the same as the *D. crassinoda*,* Lindl. Bot. Reg. 1844, t. 64 (assuredly however not the *D. crassinoda* of De Candolle,—*Echites crassinoda* of Gardner); but, besides the greater size and beauty of the blossoms, the calyx is very different, and no less so the very acuminated lobes of the corolla. *Dipladenia splendens* too (Bot. Mag. t. 3976, sub *Echitem*), has a good deal of resemblance to our plant in the size and colour of the flowers; but the calyx and corolla of that species are also very different, and the petioles want the curious fleshy stipulaceous scales which are so remarkable in *D. acuminata* and *D. crassinoda* (Lindl.). The present is, no doubt, a very distinct

* *Echites crassinoda* of Gardner (Hook. Lond. Journ. of Bot. v. 1. p. 544, and n. 250 of Mr. Gardner's Herb. Bras.) is a small shrubby (not scandent) species, referred doubtfully by De Candolle to *Dipladenia;* and is nearly allied to *Echites* (Dipladenia) *atropurpurea*, Lindl. (see Bot. Reg. 1843. t. 27).

species, and may vie in beauty with *D. Harrisii* of our present number.

Descr. A climbing *shrub*, everywhere glabrous. *Leaves* opposite, on short petioles, between ovate and elliptical, submembranaceous, shortly acuminate, penninerved and reticulated, the base cordate. Where the petioles are inserted upon the branch are two, fleshy, laciniated, somewhat stellated, conspicuous, stipulaceous *scales*. *Raceme* subpaniculate, in the only specimen we have seen terminal, many-flowered; *pedicels* curving upwards, at length spirally twisted. *Flowers* very large, fine deep rose-colour, streaked with deeper red at the faux. *Calyx* cut to the base into five, long, straight, erecto-patent, subulate *laciniæ*, half as long as the contracted portion of the tube of the corolla. *Corolla* green in the bud, very large when fully expanded. The *tube* infundibuliform, campanulate in the upper half, and contracted and cylindrical and white in the lower half: *limb* full four inches across: the *lobes* spreading horizontally, oblique, subrotund, but tapering into a long acumen. *Stamens* inserted at the summit of the contracted portion of the tube, and sheathing the stigma and top of the style. *Filaments* very short. *Anthers* linear, glabrous. *Ovaries* two, with an obtuse, fleshy gland, on each side at the base. *Style* united, filiform. *Stigma* conical, five-lobed.

Fig. 1. Leaf and stipulary scales. 2. Stamens. 3. Pistil and hypogynous glands:—*magnified.*

Tab. 4829.

PENTARAPHIA Cubensis.

Cuba Pentaraphia.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* tubo obconico 5–10-costato cum ovario connato, limbo supero, laciniis 5 subulatis æstivatione valvatis interdum summo apice inter se contortis; *corollæ tubo* ventricoso campanulato vel cylindraceo, ima basi interdum constricto, *limbo* oblique bilabiato 5-lobo, *lobis* rotundatis subæqualibus magis minusve crenato-fimbriatis. *Stamina* corollæ tubo infimo inserta, didynama, exserta, rudimentum quinti sterile; *antheræ* dorso affixæ, biloculares, primum per paria cohærentibus, post anthesin coriaceæ. *Stylus* filiformis, stamina sæpius superans; *stigma* obscure bilobum. *Discus* epigynus annulatus, primo integer, sinuatus, dein quinquies vel multifariam divisus. *Ovarium* uniloculare, placentis duabus parietalibus subcontiguis bipartitisque multiovulatis; ovulis anatropis. *Capsula* calyce coronata infera, summo apice incomplete bivalvis, valvis medio placentiferis. *Semina* minima, basi et apice attenuata, testa cellulosa tenuis, *albumen* parvum, carnosum, album, *embryo* cylindraceo-oblongus in axi albuminis, *radicula* teres, *cotyledones* ovatæ contiguæ.—Frutices *Antillani glabri resinosi ramosi;* ramulis *inferne nudis;* foliis *ad ramulorum apicem congestis dentatis stipulatis;* floribus *solitariis axillaribus vel sæpius umbellatis. Dcne.*

Pentaraphia *Cubensis;* ramis epidermide tenui lamellosa cinerascente vestitis, foliis obovatis vel obovato-cuneatis superne crenatis vel dentato-crenatis obtusis inferne integris in petiolum brevissimum attenuatis subtus reticulatis, pedunculis folio brevioribus, calycis segmentis subulatis, corolla tubulosa, capsula obconica quinquenervata. *Dcne.*

Pentaraphia Cubensis. *Dcne. in Ann. Sc. Nat. 3rd Ser. v. 6. p. 98. Walpers, Repert. Bot. v. 6. p. 735. Lindl. Journ. of Hort. Soc. v. 5. p. 86, cum Ic.*

A warm greenhouse suffices for the successful cultivation of this pretty Gesneriaceous shrub, a native, as its name implies, of the island of Cuba, where it was discovered by Mr. Linden, growing about St. Yago, Pinal de Nimanima. Through Mr. Linden living plants have been received at our Nurseries, and the Kew Gardens are indebted to Mr. Henderson, Pine-apple Place, for our plant here figured. Coming from such a source, we cannot doubt but ours is the true plant of M. Decaisne.

Descr. A small *shrub*, with erect terete *branches*, glabrous, as is every part of the plant. *Leaves* alternate, in shape not unlike

those of *Myrica Gale*, being obovate-lanceolate, coarsely serrated in the upper half, cuneate below, and tapering into a short *foot-stalk*, dark green above, pale beneath, penninerved. *Peduncle* an inch to an inch and a half long, slender, axillary, single-flowered, curved downward, bearing two opposite subulate bracts below the middle. *Flower* drooping. *Calyx-tube* incorporated with the ovary, turbinate, five-angled; *limb* of five, spreading, subulate laciniæ. *Corolla* red, with the tube nearly cylindrical, curved, broadest in the middle; *limb* of five, nearly equal, rotundate, fringed, spreading *lobes; mouth* with a dark border, yellow in the throat. *Stamens* as long as the tube: fifth stamen reduced to a short subulate filament. *Epigynous ring* large, fleshy, sinuated. *Style* exserted. *Stigma* capitate, nearly entire.

Fig. 1. Flower. 2. Stamens. 3. Pistil and epigynous ring:—*magnified*.

W Fitch del. et lith.

Vincent Brooks Imp

Tab. 4830.

WARREA discolor.

Discoloured Warrea.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4766.)

Warrea *discolor;* labelli lobo medio orbiculari retuso (disco purpureo) lateralibus semiovatis angustis non conniventibus, appendice carnosa subquadrata multisulcata apice digitato-laciniata.

Warrea discolor. *Lindl. in Journ. Hort. Soc. Lond. v.* 4. *p.* 265.

Under our *Warrea quadrata* (Bot. Mag. Tab. 4766) is noticed the affinity of that with another species of Dr. Lindley, *W. discolor:* "the flowers, however," it was observed (of *W. quadrata*), "are larger and more fleshy, with no purple but in the centre and upper half of the lip; and is essentially known by the appendix at the base of the lip being nearly square, about three-toothed in front, and deeply furrowed;—that of *W. discolor* is uniformly digitate in all the specimens I have seen." *Lindl.*

We have now the pleasure of figuring the *W. discolor*, which shows the correctness of Dr. Lindley's observations. The specimen was received in May, 1854, from Mr. Jackson, of the Kingston Nursery, who purchased it, as well as the former species, at one of the sales of Mr. Warszewitz's Central American Plants. We observe the leaves to be considerably narrower than in *W. quadrata.*

Descr. As in *W. quadrata*, we do not find any distinct pseudobulbs; the *leaves* have equitant bases, upon which the leafy portion is jointed. These *leaves* are about a span long, erect, submembranaceous, rather narrow-lanceolate, striated, attenuated below, sharply acuminated at the point. *Scapes* radical, single-flowered, shorter than the leaves, terete, bracteated; *bracteæ* distant, sheathing, brown, membranaceous. *Flowers* large, drooping. *Sepals* patent, lanceolate, white. *Petals* ovate, shorter and broader than the sepals, obtuse, white with a faint tinge of pur-

ple, erecto-patent. *Lip* large, broadly obovate in general outline, white, with the disc deep purple, gradually fading into white towards the margin: the sides of the lip are moderately involute, and represent the two lateral lobes, which do not almost meet as in *W. quadrata*; the intermediate lobe is suborbicular and slightly retuse: at the base of the lip within is a large, fleshy, almost white appendage or crest, with many furrows, and fringed or digitate with many subulate segments. *Column* short, concealed by the moderately involute sides of the lip, club-shaped, white. *Anther-case* small. *Pollen-masses* four, inserted upon a large, triangular *caudicle*.

Fig. 1. Lip. 2. Column. 3. Pollen-masses:—*magnified*.

W Hitch del. et Lith.

Vincent Brooks Imp.

Tab. 4831.

CHAMÆDOREA Ernesti-Augusti (fœm.).

Ernest-Augustus' Chamædorea (female).

Nat. Ord. Palmaceæ.—Diœcia Hexandria.

Gen. Char. Flores dioici, in spadice ramoso sessiles, ebracteati. *Spathæ* plures, membranaceæ, compressæ, persistentes.—Masc. *Calyx exterior* cupularis, 3-lobus; *interior* 3-sepalus; sepalis rotundatis, erecto-conniventibus, præfloratione valvatis. *Stamina* 6, e fundo calycis; *filamenta* teretia, brevia; *antheræ* lineari-oblongæ. *Ovarii* rudimentum.—Fœm. *Calyx exterior* cupularis, tripartitus; *interior* ut in masc. v. tridentatus (*Mart.*). *Staminum* rudimenta nulla. *Ovarium* 3-loculare. *Stigmata* 3, sessilia, parva, acuta. *Bacca* 1-sperma (aut profunde triloba, trisperma? *Mart.*). *Albumen* æquabile, corneum. *Embryo* dorsalis, basim versus situs (lateralis, *Endl.*).—Palmæ *minores*. Caudex *arundinaceus, annulatus*. Frondes *terminales vel laterales, pinnatifissæ v. pinnatæ;* pinnis *rachi subverticaliter adnatis, planiusculis;* petiolis *vaginantibus*. Spadices *sparsi et vage ramosi* (ramis *teretibus*), *infra, rarius inter frondium vaginas longiusculas sessiles;* fructiferi *corallino-rubentes vel aurei*. Spathæ *membranaceæ, spadice increscente apice perfossæ, in ejus pedunculo magis minusve persistentes*. Flores *flavescentes et virescentes*. Baccæ *globosæ vel subglobosæ, parce carnosæ, minusculæ*. ***Kth.*** **(ex *Mart. et Endl.*)**

Chamædorea *Ernesti-Augusti* (*fœm.*); caudice 3–5-pedali arundinaceo annulato erecto basi radicante apice dilatato folioso, foliis petiolatis circumscriptione obovatis basi cuneatis profunde bifidis margine sæpissime grosse serratis raro subincisis, petiolis folio brevioribus basi insigniter dilatatis amplexantibus, pedunculis axillaribus petiolum superantibus solitariis inferne sensim angustioribus erectis, spathis 3–4 vaginatis persistentibus, spadice pedali et ultra cylindraceo coriaceo-carnoso demum coccineo, calyce albo primum immerso, petalis coccineis.

Chamædorea Ernesti-Augusti. *Wendland in Allgemeine Gartenzeit., March*, 1852, *No.* 10. *Ejusd. Index Palmar. p.* 12.

Notwithstanding the invaluable labours of a Martius, the study of the Palms is still attended with great difficulties; nor is this to be wondered at, when it is considered how few, like Martius, have the opportunity of studying them in their native countries, and of observing their various phases in the form of leaf, etc., at various periods of their growth, or arising from different locali-

ties. The majority of them are also very unsuited to afford specimens that can be of practical utility in the Herbarium, to say nothing of the time and trouble required for preparing good specimens. Happily the culture of the Palms in our stoves has of late years prevailed, both in our own country and upon the Continent, and very many species have produced their flowers with us: but still there remains the difficulty of reconciling our species with those that have been figured and described, too often from imperfect samples.

The little Palm before us, which does not appear to exceed, if equals, the height of a man, attracts attention by the rich, coral-like, simple, thick, and fleshy spadices, almost a foot long, —while young, green indeed, but then studded with the red female flowers, placed at considerable distances from each other. With quite the habits of a *Geonoma*, and much resembling more than one species of that genus figured by D'Orbigny in his 'Voyage dans l'Amérique Méridionale,' it is nevertheless a true *Chamædorea*, a graceful genus of small reed-stemmed palms, peculiar to the tropical parts of South America, of which forty-two species are given in Wendland's 'Enumeratio Systematica Chamædorearum.' The present is a native of Tabasco, in New Granada, where it was found by Mr. Linden, and was received by us from Mr. Linden, under the name of "*Geonomæ* sp." Mr. Wendland indeed, in his useful 'Index Palmarum,' tells us that in different gardens this plant has gone under the name of *Chamædorea latifrons*, *Ch. simplicifrons*, *Geonoma latifrons*, and *Hyospathe elegans*. Another Palm, with altogether this habit as to stem and foliage, which we received from the same source as "*Chamædoreæ* sp.," has flowered with us. It exhibited, at the flowering-season, branched, slender spadices. This, one of our intelligent German gardeners, Mr. Hannemann, who had been in Mr. Van Houtte's establishment at Ghent, recognized as what was considered there the male of the present plant, and we were not long in determining the plant to be the *Chamædorea Ernesti-Augusti* of Wendland. This male plant will be given in our next number.

Descr. Our Palm has attained a height of five feet from the ground, including the leaves. The *stem* or *caudex* is erect, reed-like, about two inches in diameter, marked with the scars of fallen leaves, and thus appearing jointed: from the lower portion above the ground, many thick, fleshy *roots* appear, and descend into the earth. *Leaves* terminal, ten or twelve, about two feet long, including the petiole; the blade is broad-cuneate, with a deep slit almost half-way down from the apex, which divides the leaf into two large spreading acuminated lobes; the margins are serrated, the sinuses more or less deep, but never reaching to the midrib, and rarely exhibiting a deep gash: the surface

is obliquely plaited, and striated by the parallel nerves. *Petiole* about one-half the length of the leaf, below dilated into a large, concave, sheathing base, which gives a swollen appearance to the part of the stem occupied by the leaves. From the axil of the leaves the *peduncle* appears, a foot long, enclosed in three or four cylindrical close-pressed *spathas*, from which emerges a cylindrical *spadix*, nearly as long as the peduncle, tapering a little at the base and towards the point, thick, fleshy, at first green and then studded with the red bead-like flowers, afterwards the spadix becomes bright coral-red, and then marked with the black scars of the withered flowers. *Flowers*, in bud quite sunk in distant cavities on the spadix, solitary, are spirally arranged. *Calyx* white, waxy, forming a three-lobed cup, of a totally different nature from the petals or inner sepals. *Corolla* of three, cymbiform, orange-red *petals*, which connive over the pistil. *Ovary* subrotund, obscurely three-lobed. *Style* none. *Stigmas* three, short, spreading. There is no trace of stamens or rudiments of stamens in our flowers.

Fig. 1. Female flower. 2. Pistil :—*magnified.* 3. Small spadix in its green state, studded with the scarlet female flowers :—*nat. size.*

Tab. 4832.

ÆCHMEA MUCRONIFLORA.

Spiny-petaled Æchmea.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4293.)

Æchmea *mucroniflora*; foliis lato-ligulatis obtusis cum apiculo canaliculatis cartilagineis spinuloso-marginatis basi late ventricosis, racemo denso spicato brevi-elliptico, bracteis universalibus amplis foliaceis coloratis (coccineis) denticulatis acutissimis, floribus glomerato-fasciculatis, bracteis partialibus calycibus petalisque mucrone spiniformi atro-fusco terminatis, filamentis alternis petalis confluentibus, fructibus cæruleis.

The genus *Æchmea* was so named by the authors of the 'Flora Peruviana,' in consequence of the rigid points of the calyx of the flowers. In the present species the same rigid points exist on the leaves, on the partial bracts, on the sepals of the calyx, and on the petals. By this latter character the present species (a native of Demerara, and sent to us from thence by His Excellency Governor Barkly,) may be alone distinguished from *Æchmea Mertensii*, of the same country, figured at our Tab. 3186. There the petals are red, plane, narrow linear-lanceolate, gradually acuminated, lax and free: here the petals are connivent, oblong, concave, orange-yellow, streaked with brown on the back, and suddenly terminating in the sharp, hard, dark-brown mucro: the spike too, in our plant, is infinitely shorter than in *Æ. Mertensii*, and not disposed to be compound; and the stamen that is opposite to the petal has the filament combined with it for nearly its whole length. In both, the spike eventually becomes a mass of mazarine-blue pyramidal berries. —It flowered with us, for the first time, in September, 1854.

Descr. *Leaves* radical, in our plant not exceeding a foot long, broad-ligulate, obtuse, with a spiny green acumen, cartilaginous,

bluish-green, clothed with exceedingly minute furfuraceous scales, canaliculate, the upper half reflexed, dilated below, so as to form a concave convolute base, the margins for the whole length beset with slightly curved dark-brown spiny *teeth*, longest and strongest towards the base. *Scape* central, scarcely rising above the sheathing bases of the upper leaves, and bearing six to eight, spreading, large, coloured (scarlet), broad-lanceolate, acuminated (but not mucronated), denticulated, concave *bracts*, immediately above which the *spike*, oblong-cylindrical, short (four inches long), terminates the scape. The *flowers* are glomerated upon the spike. *Partial bract* so large and broad as to surround the whole base of the flower, or ovary, green, membranaceous, striated, tipped with a strong dark-brown *spine* or *mucro*. *Calyx* of three, convolute, large, membranous, yellow-green *sepals*, tipped with a spiny mucro, like that of the partial bract. *Petals* three, erect, or slightly twisted, connivent, orange-yellow, streaked with dark purple-brown at the back, oblong, concave, tipped with a hard, brown, spinous mucro: within each petal, at the base, are two, membranaceous, white, fimbriated *scales*. *Stamens* six, three alternate with the petals free; the others have the long filaments combined with the disc of the petals, the apex and the oblong anthers only being free. *Ovary* turbinate, inferior: *style* nearly as long as the petals, dilated upwards: *stigmas* three, convolute, fimbriated. *Fruit* a pyramidal *berry* of a rich blue, similar to that represented in our *Æ. Mertensii*, Tab. 3186.

Fig. 1. Flower and partial bract. 2. Petal and two stamens. 3. Pistil, from which the petals and stamens are removed:—*magnified*.

W Fitch del. et lith.

Vincent Brooks Imp.

TALINUM POLYANDRUM.

Many-stamened Talinum.

Nat. Ord. Portulaceæ.—Dodecandria Monogynia.

Gen. Char. Calyx diphyllus, deciduus, foliolis ovatis, oppositis. *Corollæ petala* 5, hypogyna, libera vel basibus coalita, tenerrima, fugacia. *Stamina* 10–30 (et ultra), petalorum unguibus aggregatim inserta; *filamenta* filiformia; *antheræ* biloculares, ovatæ, longitudinaliter dehiscentes. *Ovarium* liberum, uniloculare. *Ovula* plurima, placentæ basilari funiculis distinctis inserta, amphitropa. *Stylus* filiformis, apice trifidus, lobis patulis intus stigmatosis, vel *stigmata* 3, sessilia, arcte conniventia. *Capsula* chartacea, nitida, unilocularis, trivalvis, epicarpio ab endocarpio haud soluto, placenta basilari. *Semina* plurima, lenticulari- vel globoso-reniformia, testa crustacea, nitida, lævissima, striata, umbilico strophiolata. *Embryo* annularis, albumen farinaceum cingens.—Herbæ *interdum suffrutescentes, carnosæ, glaberrimæ, in America tropica et subtropica copiosæ, parcius in Capite Bonæ Spei, Arabia Felici et Oceania intertropica crescentes*, foliis *alternis vel suboppositis, integerrimis, exstipulatis*, floribus *cymosis, racemosis vel solitariis, axillaribus, purpureis flavis vel albis, fugacibus.—Endl.*

Talinum *polyandrum;* annuum glabrum, caulibus ascendentibus, foliis late linearispathulatis carnosis obtusis supra linea media canaliculatis, pedunculis terminalibus elongatis apice racemosis 5–8-floris, pedicellis elongatis subsecundis gracillimis demum reflexis, petalis late cuneatis remotis, staminibus numerosis, stigmatibus 3 filiformibus sessilibus pubescenti-glandulosis.

The two genera *Talinum* and *Calandrinia* (formerly considered to be almost wholly confined to the New World) have long appeared to me to be undistinguishable the one from the other. De Candolle says of the latter, "vix a *Talino* differt:" and Messrs. Torrey and Gray remark that it is intermediate between *Talinum* and *Claytonia*. Of late years several Australian species have been referred to *Calandrinia*. Among the first was *C. calyptrata*, Hook. fil. (Ic. Plant. t. 296), detected by Mr. Gunn in Van Diemen's Land (who also discovered there what has been referred by Dr. Hooker to *Claytonia—Claytonia Australasica*, Ic. Plant. t. 293). Major Mitchell detected two species in eastern tropical Australia, which are described in the journal of that traveller.

Three species (together with *C. calyptrata* above mentioned) are enumerated in Dr. Lehmann's 'Plantæ Preissianæ' of the Swan River Settlement, besides a plant referred to *Talinum;* and it is from this country that we raised our present plant from seeds sent by Mr. Drummond in 1853. Among the species of Preiss, none accords with this. *C. Balonensis,* Lindl. in Mitch. (foliis angustatis obovato-lanceolatis alternis oppositisque, racemis secundis multifloris, caulibus multo longioribus, floribus conspicuis polyandris), seems not far distant from the present species; but, with no further marks to guide me, and considering the widely different locality, it will be safer to keep it distinct.* I have referred it to *Talinum* because of the numerous stamens, exceeding even what are attributed to *Talinum.* It flowered in the greenhouse in August, 1854.

Descr. *Root* slender, descending, fusiform, annual, bearing several leaves at the top, and several spreading, ascending, terete, slender, reddish *stems*, scarcely a span long: these have distant, alternate, or very rarely opposite, broad-linear, subspathulate, sessile, entire, obtuse, fleshy, thickened *leaves*, having a depressed longitudinal central line above, quite plane below, with no conspicuous costa or nerve; the largest of them are three inches long. *Peduncles* terminal or subaxillary, including the racemes longer than the stem, very slender. *Pedicels* subsecund, long, filiform, at length reflexed. *Calyx* of two, opposite, broad-ovate, cymbiform, green *sepals*. *Petals* five, spreading apart from each other, red-purple. *Stamens* very numerous, spreading, about half as long as the petals. *Anthers* small, yellow. *Ovary* subglobose, crowned with three, sessile, filiform, glanduloso-pubescent *stigmas: style* none.

Fig. 1. Calyx and pistil:—*magnified.*

* I have, since the above was in type, seen authentic specimens of Dr. Lindley's plant. It is quite different from ours, having much broader and more spathulate leaves and larger flowers; but it is closely allied to our present species in habit, and in the very numerous stamens and absence of style.

Vincent Brooks Imp

Tab. 4834.

BURLINGTONIA DECORA.

Neat Burlingtonia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium membranaceum, convolutum, obliquum. *Sepala* unguiculata, labello breviora, basi a petalis distincta; *lateralia* basi concava, connata, labello supposita. *Petala* unguiculata, labello parallela, sepalis longitudine æqualia, sed latiora. *Labellum* unguiculatum, bilobum, basi cornutum vel muticum, cum columna parallelum, apice dilatatum, ungue canaliculato, lamellato. *Columna* teres, longe clavata, nunc apice appendicibus duabus coloratis aucta; *clinandrio* dorsali, *stigmate* utrinque cornuto. *Antheræ* uniloculares. *Pollinia* 2, postice excavata, *caudiculæ* subulatæ elasticæ adnata.—Herbæ *epiphytæ*, **pseudobulbis 1–2-*phyllis*, *basi foliatis*. *Lindl.***

Burlingtonia *decora;* caulibus elongatis gracilibus hic inde proliferis, pseudobulbis ovatis compressis monophyllis, sepalis petalisque (albis roseo-maculatis) acutis, labelli ungue sepalis petalisque longiore, calcare integro, columna apice appendicibus 2 falcatis erectis pilosis aurita.

Burlingtonia decora. "*Lemaire, Jardin Fleuriste, v.* 2. *Jan.* 1852, *t.* 188." *Lindl. et Paxt. Fl. Gar. v.* 3. *p.* 100 (*with a woodcut, copied, we presume, from a continental figure*).

Burlingtonia amœna. "*Planchon in Hort.*"

For the opportunity of figuring this very pretty Orchideous plant, we are also indebted to the kindness of Mr. Jackson. It was received by him from Paris, and we find a woodcut of it among the "gleanings and original memoranda" of Lindley and Paxton's 'Flower Garden,' accompanied by some observations, from which we learn that it has been lately figured by Van Houtte in his 'Flore des Serres' (we presume, under the name given by M. Planchon,) as well as by M. Lemaire; and further, that "it was introduced from the province of St. Paul's, in Brazil, by M. Libou, the collector for M. de Jonghe; that this flowered in May, with Mr. Makoy, when it was named *B. decora*, under which name it is mentioned in various trade-catalogues, and afterwards published by M. Lemaire."—We find it difficult in words to distinguish this, specifically, from the *B. rigida*,

figured by Dr. Lindley in the 'Sertum Orchidaceum,' t. 36, different as the two appear at first sight. The conductors indeed of the 'Flower Garden' say that, "according to the author above quoted, we have in this plant much smaller flowers, a simple, conical, not two-lobed spur, short, very sharp sepals and petals, and a pair of great lacerated appendages at the base of the lip; to say nothing of the spotting which is so unlike anything among Burlingtonias, except *maculata*." Now certainly the "pair of great lacerated appendages at the base of the lip" do not exist in our plant. In *B. rigida* it will be seen that there are four elevated and laciniated plates: in our plant the two outer ones are marginal. The chief differences, if constant, appear to us to be in the smaller size of the entire plant, the entire spur, the more acute and spotted sepals and petals, and the greater length of the claw of the lip in proportion to the limb or ultimate lobe. It is certainly a plant of great beauty and delicacy, and the more welcome for flowering in early winter.

Descr. From different parts of a long, slender, radicant *stem*, there arise small oval or ovate compressed *pseudobulbs*, each bearing an oblong, obtuse, subcoriaceous, veinless *leaf*. A lesser leaf appears at the base of a bulb, and from the axil of this the scape springs, a span or more high, slender, erect or nearly so, articulated at intervals and bearing small membranaceous bracts from each joint. *Flowers* racemose (or rather a spike, for the ovaries are sessile, very long and slender and pedicelliform), distichous, moderately large for the size of the plant, inclined, scarcely drooping. *Calyx* and *sepals* connivent, ovate, acute, nearly uniform, the two lateral *sepals* combined for a great part of the length, so as to represent a single broad bifid sepal at the back of the lip; all are white, beautifully spotted with deep rose-colour. *Spur* short, deflexed, obtuse (not bifid). *Lip* nearly orbicular, two-lobed, white, large, spreading, suddenly contracted into a broad *claw*, which has four elevated membranes; the lateral ones, marginal and strongly laciniated, may perhaps be considered as obsolete lateral lobes: these membranes are buff-coloured. *Column* terete, clavate, hairy in front, terminating above in two, long, deep, rose-coloured, wavy, erect, but slightly falcate and villous, linear-oblong ears: two other subulate reddish processes are seen in front, one on each side the stigma. *Anther-case* very large, helmet-shaped. *Pollen-masses* two, attached to a spathulate *caudicle*, and arising from an oval gland.

Fig. 1. Under side of an entire flower, showing the spur. 2. Column and lip. 3. Front view of a column. 4. Pollen-masses:—*magnified*.

Tab. 4835.

BILLBERGIA Wetherelli.

Mr. Wetherell's Billbergia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4756.)

Billbergia *Wetherelli;* foliis cartilagineis lato-ligulatis obtusis cum acumine basi latioribus concavis circumvolutis marginibus obscure spinuloso-serratis, scapo foliorum vaginis inclusis, rachi tomentosa spicaque densa exsertis nutantibus, bracteis universalibus amplis coloratis coccineis, petalis (apice purpureis) spathulatis intus versus basin lineis duabus membranaceis subfimbriatis et ad basin squamis duabus fimbriatis.

Dr. Lindley has long ago (Bot. Reg. 1827, under Tab. 1068) observed that it would be difficult to point out a family of plants more interesting from their beauty or singularity than that of *Bromeliaceæ;* and we think the two plants of this family, represented in our present number, serve to strengthen that remark. He further adds, "of which the systematic arrangement has been less carefully studied;" and he has himself given, *l. c.*, a "synopsis of what he considers the essential characters of the genuine genera:" and there, for the first time, we believe, *Billbergia* of Thunberg is clearly defined. To this he has referred several described Brazilian Bromelias, and Martius has added several new ones. None of these however accord with our plant, which we lately received from Bahia by favour of James Wetherell, Esq., H.M. Vice-Consul at that city. The handsome flower-spike was produced in December, 1854. It may rank systematically near *Bromelia iridifolia*, Nees et Mart. (*Billbergia iridifolia*, Lindl. Bot. Reg. f. 1068); differing however remarkably in the foliage, and no less in the nature of the inflorescence. It is an extremely showy species, and easily cultivated in a moist stove and not exposed to too powerful light.

Descr. *Leaves* all radical, scarcely a foot long in our specimens, broad-ligulate, cartilaginous, glabrous and destitute of minute scales or scurf, moderately channelled, narrower up-

wards, and ending in a short acumen, the margins rather obscurely spinuloso-serrate, the serratures pointing upwards; the bases are much dilated, concave, and sheathed, as is common to many *Bromeliaceæ:* the outer leaves are more or less recurved. *Scape* central, mostly concealed by the sheathing bases of the leaves; the rest of it, bearing the flowers and highly-coloured bracts, is exserted and drooping, bent down suddenly towards the ground: the *rachis* stout, clothed with whitish dense wool. Universal *bracteas*, the lower ones flowerless, all of them large, at first imbricated, then more or less patent, two to three inches long, scarlet, sharply acuminated, obsoletely striated, entire. *Flowers* forming a thick thyrsoid *spike*, only the upper ones destitute of the large bracteas, and scarcely exserted beyond the bracteas of the inferior flowers. *Calyx* superior, of three, erect, membranaceous, white, oblong *sepals*, slightly tinged with red. *Petals* about half as long again as the sepals, erect, spathulate, the *claw* white, the *limb* purple, moderately patent; within the claw are two longitudinal plicæ, which meet over the filament, and are partly laciniated; and there are besides two fimbriated *scales* at the very base of the claw. *Stamens* all free.

Fig. 1. Petal, with the scales and stamen:—*magnified.*

Vincent Brooks Imp

Tab. 4836.

PAPHINIA CRISTATA.

Crested Paphinia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Flores subregulares, expansi petaloidei, parum in mentum producti. *Labellum* parvum, unguiculatum, tripartitum, glandulis filiformibus apice alibique obsitum. *Columna* clavata, elongata, semiteres, apice auriculata. *Pollinia* 4, per paria caudiculæ elongatæ apice setaceæ affixa, *glandula* minuta subtriangulari; rostello subulato.—Herba *pseudobulbosa*, *scapo pendulo pauciflora*. *Lindl.*

Paphinia *cristata;* pseudobulbis ovatis sulcatis mono-triphyllis, foliis oblongo-lanceolatis plicatis, scapo pendulo bifloro squamis laxiusculis vaginato, floribus explanatis, sepalis petalisque lanceolatis acutis æqualibus, labello multo minore tripartito carnoso, laciniis lateralibus falcatis intermedia rotundata cristato-fimbriata utrinque unidentata, ungue subcristato disco bidentato. *Lindl.*

Paphinia cristata. *Lindl. in Bot. Reg.* 1843. *Miscell. p.* 14.

Maxillaria cristata. *Lindl. in Bot. Reg. t.* 1811.

A very curious and really handsome Orchideous plant, native of Trinidad and New Granada, first published by Dr. Lindley as a *Maxillaria*, and then very justly raised by him to the rank of a new genus. In our plant the flowers are large, and the markings are of a deeper and more chocolate-brown colour; and there is a slight difference in the form of the lip, but not enough to justify its being considered a new species. Our plant was received from Mr. Purdie. It flowers in the Orchideous stove in August.

Descr. *Pseudobulbs* clustered, oblong-ovate, compressed, moderately furrowed; one of the old bulbs is terminated by two leaves; the younger one with three, besides leafy scales at the base: these *leaves* are four to six inches long, lanceolate, patent, submembranaceous, plicate. *Peduncles* solitary, single or two-flowered, pendent, emerging from the base of a pseudobulb, jointed and sheathed with loose, brown, membranaceous scales. *Sepals* and *petals* alike in shape, the latter smaller, all of them

patent, lanceolate, fleshy, having a white ground, variously streaked, and blotched, and spotted with dark chocolate-brown: the intermediate less covered with brown, and with more regular transverse bands. *Lip* very curious in form, almost entirely of a rich chocolate-purple colour, very much smaller than the petals or sepals, somewhat ovate in circumscription, shortly unguiculate, thick and fleshy, deeply two-lobed; two lateral lobes oblong, acute, subacinaciform; middle lobe rhomboidal (*i.e.* with an angle or tooth on each side), terminated at the apex with a *crest*, a tuft or pencil of club-shaped, downy, white fimbriæ: the disc is curiously crested, and there are four long-pedicellated glands on the claw. *Column* yellow-green, banded with chocolate near the base, club-shaped, semiterete, with a large projecting tooth on each side below the anther: between which teeth, in front, is the very long, prominent *rostellum*. *Anther-case* hemispherical. *Pollen-masses* obovate, from a long *caudicle*; *gland* small, triangular.

Fig. 1. Column and anther. 2. Pollen-masses. 3. Labellum. 4. Fimbria from the apex of the labellum:—*magnified*.

Tab. 4837.

CHAMÆDOREA Ernesti-Augusti (mas).

Ernest-Augustus' Chamædorea (male).

Nat. Ord. Palmaceæ.—Diœcia Hexandria.

Gen. Char. (*Vide supra*, Tab. 4831.)

Chamædorea *Ernesti-Augusti* (mas); caudice 3–4-pedali arundinaceo annulato erecto basi radicante apice dilatato folioso, foliis petiolatis circumscriptione obovatis basi cuneatis profunde bifidis margine sæpissime grosse serratis raro subincisis, petiolis folio brevioribus basi insigniter dilatatis amplexantibus, pedunculis petiolum superantibus crassiusculis inferne sensim angustioribus erectis spathis vaginatis persistentibus, spadice 8–9-pollicari simpliciter ramoso, ramis plurimis 6–8-pollicaribus attenuatis gracilibus obtuse angulatis, calyce albo primum immerso operculiformi, petalis coccineis.

Chamædorea Ernesti-Augusti. *Wendland in Allgemeine Gartenzeit.* 1852, *No.* 10. *Ejusd. Index Palmar. p.* 12. *Hook. Bot. Mag. t.* 4831 (*fœm.*).

We have already, under our Tab. 4831, alluded to the Palm now under our consideration, and given our reasons for believing it to be the male plant of *Chamædorea Ernesti-Augusti*. It entirely agrees with the description above quoted, except that Mr. Wendland describes the lower portion of the spadix as *compoundly* divided, whereas the branches of the spadix in our plant are always simple, as here represented. It is equally a native of New Granada, and was received from the Belgian Gardens under the name of "*Chamædoreæ* sp."

Descr. Our description given at Tab. 4831, of the *root*, *stem* (or *caudex*), and *fronds* and *spathas*, are equally applicable to the present plant: the difference is in the *spadix*: this, instead of being simple (unbranched), thick, and cylindrical, is, from where it emerges from the spatha, divided into many, long, slender, thickish, but almost filiform, patent, or below reflexed, flexuose *branches*, tapering to a point, and clothed with numerous

scattered flowers: the main rachis is obtusely many-angled: the branches bluntly three-angled: all at first white, afterwards green, but withering without attaining the rich scarlet of the female spadix. Young *flower-buds* very much sunk in the substance of the rachis, but soon emerging. *Calyx* small, at first hemispherical, then cup-shaped, white, bursting open in three blunt segments, longer than those of the male calyx. *Petals* three, united at the base, broad oval, obtuse, or nearly cymbiform, deep orange. *Stamens* six, united by their short filaments at their base. *Anthers* oval-oblong, two-celled. *Ovary* small, abortive, with a short *style* and spreading three-lobed *stigma*.

Our Plate represents a reduced figure of the entire plant, and a portion of the spadix:—*nat. size*. Fig. 1. Portion of the spadix, with flowers. 2. Lower portion of the calyx, with stamens and abortive ovary:—*magnified*.

1838

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Vincent Brooks Imp

CRAWFURDIA FASCICULATA.

Fascicle-flowered Crawfurdia.

Nat. Ord. Gentianeæ.—Pentandria Digynia.

Gen. Char. Calyx 5-fidus v. 5-dentatus, dentibus distantibus. *Corolla* marcescens, clavata, foveis glandulisque destituta, intus nuda, limbo 5-partito, plicis exsertis aucto. *Stamina* 5, imo corollæ tubo inserta; *filamentis* basi subæqualibus. *Antheræ* erectæ, inclusæ. *Ovarium* disco hypogyno quinquelobato basi cinctum, uniloculare, ovulis suturæ insertis. *Stylus* distinctus, persistens, stigmatibus binis terminalibus oblongis revolutis. *Capsula* stipitata, bivalvis, septicida, valvulis brevissime involutis subunilocularis, placentis suturalibus. *Semina* placentis immersa; *testa* alata.—Herbæ *volubiles, Nepalenses*, ramis *elongatis*, foliis *petiolatis*, floribus *speciosis plerumque axillaribus. Griseb. in DC.*

Crawfurdia *fasciculata;* foliis lanceolatis magis minusve latis, floribus solitariis fasciculatisve, calycis tubo alte 5-alato, laciniis subulatis tubum subæquantibus, corollis infundibuliformibus, limbo laciniis accessoriis aucto.

Crawfurdia fasciculata. *Wall. Fl. Nepal. Tent. p.* 63. *t.* 47. *Griseb. in DC. Prodr. v.* 9. *p.* 121.

Gentiana volubilis. *Don, Nep. p.* 126.

Two species of this most lovely plant, from Sheopore and Nepal, were first made known by Dr. Wallich; and so "different are they," he observes, "in their climbing habit from all the other members of the Order of *Gentianeæ*, that I cannot hesitate detaching them into a separate genus;" and this he named *Crawfurdia*, "in honorem dilectissimi *Joannis Crawfurd*, armigeri, insulæ Singapore gubernatoris propter opus suum de Archipelago Malayano bene meriti, historiæ naturalis totius, præprimis vero botanices fautoris strenui, ejusque studio addictissimi." Mr. Crawfurd's name, too, stands recorded in connection with the discovery of the splendid *Amherstia nobilis* (see the account of that plant under our Tab. 4453). Seeds of our *C. fasciculata* were sent from Khasya by Mr. Thomas Lobb to Mr. Veitch, with whom it flowered in the greenhouse in January of the pre-

sent year (1855). Although this is the smaller-flowered species of the two, it is the more highly coloured in the corolla, and the flowers are more copious,—often, as Dr. Wallich figures, four to six growing together in a fascicle; but this is not by any means constantly the case. Dr. Royle finds it in Garhwal, and Dr. Hooker throughout the Khasya hills and in Sikkim. *Craufurdia Japonica* seems quite to accord with this species, as far as can be judged from the character given in Walpers.

Descr. *Root* said by Dr. Wallich to be fibrous, and is probably annual. *Plant* everywhere glabrous. *Stems* slender, filiform, terete, of considerable length, branched, with longer, slender branches of the like character, twining in the same way as our *Convolvulus arvensis*, reddish or purple. *Leaves* opposite, in rather remote pairs, lanceolate, acuminate, the larger and older ones broader and obtuse at the base; all of them entire, three- to five-nerved, dark green above, pale beneath; *petioles* scarcely half an inch long. *Flowers* axillary, upon very short *peduncles*, solitary, or two or three, or more, together, and in the latter case fasciculate, whence the specific name. *Bracteas* generally two, small, foliaceous. General aspect of the *flower* very much that of *Gentiana Pneumonanthe*, but larger. *Calyx*, the tubular portion oval, or almost cylindrical, with five conspicuous, longitudinal wings. *Limb* of five, subulate, erect lobes, nearly as long as the tube. *Corolla* about an inch and three-quarters long, infundibuliform, pale purple externally, with five broad, whitish lines, within rich purplish-blue; the limb of five, spreading, acuminated segments, having in the sinus a broad, obtuse, slightly crenated tooth or lacinula. *Stamens* five, altogether included; *filaments* subulate, inserted below the middle of the tube of the corolla; *anthers* subsagittate. *Ovary* oblong, stipitate; the *stipes* springing from the centre of a five-lobed *disc*; *styles* two, approximate, or apparently slightly combined for their whole length, as long as the ovary. *Stigmas* two, long, terete, papillose, spirally revolute. *Capsule* stipitate, elliptical, compressed, mucronated.

Fig. 1. Corolla laid open. 2. Pistil and glandular disc:—*magnified*. 3. Capsule:—*nat. size*.

Tab. 4839.

BROWNEA grandiceps.

Cluster-flowered Brownea.

Nat. Ord. Leguminosæ.—Monadelphia Decandria.

Gen. Char. Calyx tubo elongato, persistente, *limbi* quinquepartiti decidui *laciniis* longis, duabus v. quatuor per paria cohærentibus. *Corollæ petala* 5, summo calycis tubo inserta, longissime unguiculata, subæqualia. *Stamina* 10–15, cum petalis inserta, in tubum hinc fissum coalita, omnia fertilia. *Ovarium* stipitatum, compressa, fibris fungosis obvoluta.—Arbusculæ *Americæ tropicæ inermes, speciosæ;* ligno *flavescente, duro,* foliis *paripinnatis,* foliolis *integerrimis,* inflorescentia *terminali,* floribus *racemosis v. plus minus dense spicato-capitatis, bracteatis, coccineis v. albis,* pedicellis *apicem versum bibracteatis,* bracteis *in tubum infundibuliformem bilobum connatis. Endl.* 6–7-ovulatum. *Stylus* filiformis; *stigma* acinaciformi-compressum. *Semina* ovata,

Brownea *grandiceps;* foliolis sub-12-jugis lanceolato-oblongis longissime cuspidato-acuminatis eglandulosis, staminibus longitudine corollæ, ramis petiolisque pubescentibus, floribus dense capitato-spicatis. *De Cand.*

Brownea grandiceps. *Jacq. Coll. v.* 3. *p.* 287. *t.* 28. *f.* 1 a. *Fragm. t.* 22, 23. *H. B. K. Nov. Gen. Am. v.* 6. *p.* 313. *De Cand. Prodr. v.* 2. *p.* 477. *Spreng. Syst. Veget. v.* 3. *p.* 75. *Lindl. Bot. Reg.* 1841. *t.* 30. *Walp. Repert. v.* 1. *p.* 843. *v.* 5. *p.* 565. *Annales, v.* 2. *p.* 447.

Although very inferior in point of richness of colour of the flowers to *Brownea coccinea* (figured at our Tab. 3964), yet the quantity of flowers collected into an almost globose head, nearly eight inches in diameter, gives this infinitely the advantage over that species. It produces these blossoms much less frequently, and the only fresh sample we have ever seen is the fine one sent over from the stoves of the Glasnevin Botanic Garden, for the purpose of being figured in the present work, by Mr. Moore, in the autumn of 1853. Dr. Lindley mentions a peculiarity in this shrub which we have not had the opportunity of observing. "The brilliant head (of flowers) appeared on the side of the main stem, among the leaves, which at that time presented a singular phenomenon. Every evening they rose up and lifted themselves from the blossoms to expose them to the dew, so that each morning these beautiful objects were uncovered; but as day advanced, the leaves gradually drooped, and bent down

over the flowers to guard them from the rays of the sun." Seven or eight species of this fine genus of plants are described, all inhabiting the tropical regions of South America: the present inhabits mountain-woods about Cumana, Cariepe, Caraccas, and La Victoria, and bears the name, among the inhabitants, of "Rosa del Monte," or "Palo de Cruz."

Descr. A small *tree*, we understand, in its native country; *branches* stout and downy. *Leaves* large, a foot and more long, drooping, alternate, abruptly pinnate; pinnæ upon very short petiolules, and extending the whole length of the very downy ferruginous petiole, alternate, oblong or lanceolate, penninerved, entire, glabrous, obtuse at the base, much and sharply acuminate, almost caudate at the apex, the sides unequal, the margins wavy: lowest pinnules perfectly cordate, with a narrow subulate acumen, nearly as long as the leaf. *Flowers* large, red, exceedingly numerous, forming a dense globose *thyrsus*, or very large pendent *capitulum*, eight inches across, which proceeds from the very downy apex of a branch. *Pedicels* short, downy. *Bracts* at the base of the pedicels, large, oblong-lanceolate, obtuse, concave, coloured, downy at the back. *Bracteoles* formed of two, united by their margins, bifid at the apex, resembling an outer calyx. *Calyx* funnel-shaped, tripartite, upper segment longer and deeply bifid. *Petals* large, spathulate; *lamina* obovate, waved; *claws* slender. *Stamens* arising from the tube of the calyx, as long, or rather longer than the petals, monadelphous at the base: *anthers* linear, versatile. *Ovary* stipitate, springing from the tube of the calyx, linear-oblong, downy; *style* filiform, subulate, exceeding the petals and stamens in length; *stigma* capitate.

Fig. 1. Flower, with its pair of united bracteoles. 2. Bract. 3. Tube of the calyx and of the filaments, including the pistil:—*more or less magnified.*

Tab. 4840.

ABUTILON insigne.

Handsome-flowered Abutilon.

Nat. Ord. Malvaceæ.—Monadelphia Polyandria.

Gen. Char. Involucellum nullum. *Calyx* 5-fidus, sæpius cupulæformis, laciniis æstivatione valvatis. *Corollæ petala* 5, hypogyna, obovata, sæpius inæquilatera, unguibus imo tubo staminco adnato, æstivatione convolutiva. *Tubus* stamineus basi dilatata fornicata ovarium tegens, superne augustatus, columnæformis, apice in filamenta plurima filiformia divisus, rarius simul infra apicem antherifer. *Antheræ* reniformes, sinu affixæ, versatiles, rima semicirculari apertæ, bivalves, septo manifesto. *Ovarium* sessile, quinque-multiloculare. *Ovula* in loculis 4–9, angulo centrali inserta, adscendentia et pendula. *Styli* loculorum numero, filiformes, basi plus minus coaliti; *stigmata* capitata. *Capsula* penta-polycocca, *coccis* haud secedentibus, apice introrsum rima apertis. *Semina* in loculis pauca v. abortu solitaria, reniformia v. subhippocrepica; *testa* crustacea, emarginaturæ sinu umbilicata. *Embryo* intra albumen paucum subcarnosum homotrope arcuatus; *cotyledonibus* foliaceis, petiolulatis, basi auriculatis, sæpe plicato-involventibus.—Herbæ, suffrutices *v.* frutices, *nonnullæ* arbores, *in regionibus tropicis et subtropicis totius orbis crescentes;* foliis *alternis, petiolatis, cordatis, dentatis v. rarissime lobatis*, stipulis *lateralibus geminis*, pedunculis *axillaribus, solitariis v. pluribus, uni-multifloris, infra apicem articulatis, interdum* floribus *spicatis v. racemosis, rarissime corymbosis. Endl.*

Abutilon *insigne;* fruticosum, ramis petiolis pedunculis calycibusque pubi stellata ferruginea obsita, foliis sublonge petiolatis cordatis subangulatis grosse serratis reticulatis pubescentibus, stipulis parvis subulatis, racemis nutantibus paucifloris, calyce campanulato 5-fido, lobis ovatis acuminatis, petalis cuneato-obovatis amplis albis pulcherrime venis rubris pictis inferne approximatis, laminis patentibus crispatis, ovariis globosis tomentosis.

Abutilon insigne. "*Planchon, MSS. in Van Houtte, Fl. des Serres, v.* 6. *p.* 11. *t.* 551. *Walpers, Annal. v.* 2. *p.* 157.

The Royal Gardens of Kew are indebted to Messrs. Lowe, of the Clapton Nursery, for the possession of this very desirable stove shrub,—a native of New Granada, and introduced into Europe by Mr. Linden. It has the advantage, too, of bearing its lovely flowers when the plant is not more than one or two feet high, and these flowers continue some time in perfection, appearing with us in January. The ground-colour of the large

petals is white, but that is almost entirely obliterated by the rich carmine veining or reticulation, both without and within; but brightest on the upper side.

Descr. A small *shrub*, with rather large, alternate, long-petiolated, truly cordate, acuminated, sometimes angled, or slightly lobed *leaves*, coarsely serrated, reticulately veined, glabrous; the principal nerves beneath, the slender *petioles*, *peduncles*, *calyces*, and young *branches* clothed with ferruginous stellated down. *Peduncles* axillary, slender, dooping, about as long as the leaves, solitary, bearing an imperfect umbel or few-flowered cyme, and accompanied by two small, ovate, acuminate leaves. *Stipules* small, subulate. *Pedicels* jointed above the middle. *Calyx* large, campanulate, five-lobed at the mouth; lobes ovate, acuminate. *Petals* cuneato-obovate, large, the broad lamina spreading, white, and richly coloured with close, crimson reticulations. *Staminal tube* as long as the petals: *anthers* numerous. *Ovary* globose, woolly, about fifteen-celled. *Style* as long as the staminal tube, dividing into fifteen *stigmas*.

Fig. 1. Ovary. 2. Transverse section of the same:—*magnified*.

Tab. 4841.

BEGONIA Natalensis.

Natal Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *Natalensis;* tuberosa glabra, caule succulento inferne crasso nodoso ramoso, foliis inæqualiter semicordatis acuminatis lobatis hinc grosse auriculatis serratis albo-maculatis, pedunculis axillaribus dichotome ramosis, floribus nutantibus, masculis sepalis 2 rhombeo-orbicularibus, fœmineis sepalis 5 (nunc 4) rhombeo-ovatis, fructu 3-alato alis 2 majoribus subacute angulatis unico breviore obtusangulo.

Above 170 species of *Begonia* are enumerated by Walpers. The majority of these having been described from dried specimens, too often very imperfect ones, it is hard to say whether this is among them or not. It certainly does not accord with any one of the very few that are natives of South Africa, to which country our plant belongs. It was brought to us by Captain Garden, from Natal; and though possessing no bright or lively colours, is a desirable inmate of the stove, or of a warm greenhouse, from its being so abundant a flowerer, and from these flowers being in perfection in the winter months, November and December.

Descr. *Root* a large depresso-globose *tuber*, scarcely half buried in the ground, and sending out branched fibres, true roots, from almost regular distances of the circumference; this *tuber* is of a greyish-brown colour, quite smooth, and rather gradually contracts itself into the thickened base of the *stem*, which is knotted and branched, and the *main stem* and *branches* upwards gradually become more and more slender; but the whole is of a very succulent character, of a dirty yellowish-green, tinged with copper-colour, jointed and nodose at the joints; height from a foot to a foot and a half. *Leaves* semicordate and acuminate, resembling the half of a cordate five-lobed

leaf, the costa dividing it into two very unequal portions, and the lower lobe forming a large appendage or ear to the leaf on one side. The margin is also coarsely, almost lobato-, serrate; the colour a dull green, paler beneath, the upper side marked with whitish spots, most apparent on the old leaves. *Petiole* shorter than the leaf, reddish. *Peduncles* axillary, solitary, about as long as the petioles, dichotomously branched, each *panicle* or *cyme* bearing both male and female flowers. *Male flowers* consisting of two orbicular or subrhomboid, spreading, yellowish-white *sepals*, tinged with rose, and slightly veined; *stamens* fasciculate, ten or twelve. *Female flowers* of five (rarely four) spreading, rhombeo-ovate *sepals*, of the same colour as the male. *Ovary* and fruit with three vertical wings, two of them large, rather acutely angled, and forming together a nearly equilateral triangle; the third wing is shorter, rounded (or forming the segments of a circle in its outline), and slightly waved. *Style* short; *stigmas* very downy, much and spirally twisted.

Fig. 1. Fruit nearly mature:—*magnified*.

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Vincent Brooks Day

Tab. 4842.

ALBUCA? Gardeni.

Captain Garden's Albuca.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. Calyx corollaceus, 6-sepalus, regularis, persistens. *Sepala* ima basi connata; nunc omnia, nunc nonnisi exteriora apice fornicato-excavata; hæc multi(7–17)-nervia, plana, patentissima; interiora paullo breviora, sed latiora, tenuiora, medio 5–7-nervia, concava, erecto-conniventia. *Stamina* 6, basi sepalorum inserta iisque breviora; tria exteriora minora, interdum castrata. *Filamenta* crasse filiformia; tria interiora basi membranaceo-dilatata. *Antheræ* biloculares, introrsæ, lineari-oblongæ, apice profunde emarginatæ, basi bifidæ, dorso medio affixæ. *Ovarium* liberum, sessile, triloculare; *ovula* in loculis creberrima (circiter 50), biseriata?, horizontalia, anatropa, sessilia. *Stylus* erectus, crassus, profunde 3-sulcatus (pyramidatus, *Endl.;* pyramidato-inversus, *Juss.*). *Stigmata* tria, papillosa, nunc globulosa, distincta, nunc abbreviato-conica, pyramidato-conniventia (stigma trigonum, papilloso-hirtum, *Endl.*). *Capsula* pergamenea, elliptica, triangularis, trilocularis, apice loculicido-trivalvis. *Semina* in loculis creberrima, compresso-plana, lata (latiora quam longa), undique marginato-alata, nigra, nitidula; *testa* tenuis, membranacea, albumini carnoso adnata, margine alato-ampliata. *Embryo* axilis, cylindraceus, rectus, albumine vix brevior; *radicula* hilum attingens.—Herbæ *bulbosæ, scapigeræ, facie* Ornithogali. Racemi *laxiflori.* Flores *longe pedicellati, cernui, virides, flavidi vel lutei;* pedicellis *patentibus, bractea membranacea longa stipatis. Kth.*

Albuca? *Gardeni;* acaulis bulbosa stolonifera glabra, bulbis squamosis, squamis 4–5 amplis latis laxis, foliis 3–5 lato-lanceolatis inferne attenuatis basi dilatatis obsolete striatis, scapo simplici foliis breviore bracteato, racemo ovato erecto plurifloro, pedicellis strictis basi bracteatis, sepalis (albis) oblongis patentibus usque ad basin liberis, filamentis subulatis omnibus antheriferis, antheris oblongis.

From Natal, South Africa, whence the roots were brought to us early in 1854, by Captain Garden, to whom we owe the possession of many curious plants and interesting Museum objects. They flowered with us in the stove in October of the same year. It is only provisionally that I place it in *Albuca*. Its habit is peculiar, but in many respects it approaches the *Albuca physodes*, Gawl. in Bot. Mag. t. 1046, and both will probably rank in the same genus. The late Professor Kunth removed that species (*physodes*) from *Albuca*, with which it has little affinity,

and referred it, among "species dubiæ," to his new genus *Idothea*, although the structure of the sepals (inferne in tubum campanulatum) is quite at variance. Our materials will hardly justify us in forming a new genus.

DESCR. The *bulbs* are stoloniferous, reminding one of the pseudobulbs of many epiphytal Orchidaceous plants, thickened or tuberous at the base, and coated with large, broad, leafy, rather lax, brown scales, from within which the *leaves*, three to five to each plant, arise; they are almost a span long, broad, lanceolate, quite glabrous, tapering below, there becoming dilated, sheathing at the very base. *Scape* shorter than the leaves, erect, bracteated, purple. *Raceme* erect, ovate, many-flowered. *Pedicels* (as well as the rachis) pale green, straight, spreading, about three-quarters of an inch long, bearing a *bracteole* half their length at the base. *Flowers* white, scentless, small. *Sepals* six, oblong, obtuse, spreading, quite free to the base, every alternate one with a depression or cavity at the apex (as in so many true Albucas). *Stamens* six, perfect, hypogynous, alternate with the sepals; *filaments* naked, subulate; *anthers* long, oblong, yellow. *Ovary* subrotund, gradually tapering into a three-furrowed *style*. *Stigma* obtuse.

Fig. 1. Flower and pedicel. 2. Pistil:—*magnified.*

Tab. 4843.

SCIODACALYX Warszewiczii.

Warszewicz's Sciodacalyx.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx tubo cum ovario connato, *limbo* horizontaliter patente, leviter 5-lobo, *lobis* æqualibus. *Stamina* corollæ tubo inserta, 4 didynama, inclusa, cum rudimento quinta. *Antheræ* 2-loculares. *Corolla* in calyce subrecta, basi subobliqua, *tubo* fere recto, inflato, *fauce* constricta, *limbo* subæquali patente. *Ovarium* calyci adnatum, *annulo* crenato cinctum, uniloculare, pluriovulatum. *Stylus* simplex; *stigma* bifidum. *Capsula* unilocularis, plurisperma, bivalvis, valvis medio placentiferis.—Herbæ *Americæ tropicæ*, stolonibus *squamoso-amentaceis*, *perennes*, caule *erecto*, foliis calycibusque *villoso-hirsutis*, foliis *oppositis petiolatis oblique ovatis v. cordato-ovatis*, *acuminatis*, *grosse crenatis*, pedunculis *axillaribus*, *umbellam 3-plurifloram gerentibus*.

Sciodacalyx *Warszewiczii*. *Regel*, *Gartenflora*, *Jahrg.* 1853, *p.* 258, *t.* 61.
Gesneria Regeliana. *Warsz. MSS.*

The genus *Sciodacalyx*, Reg., deriving its name from the umbrella-like expansion of its calyx, is allied to *Hepiella*, Reg., and *Brachyloma*, Stanst. We are only acquainted with one species of this fine genus, viz. *S. Warszewiczii*, which the collector, whose name it bears, discovered in the mountains about Santa Marta, New Granada, and transmitted to the Botanic Garden at Zürich, where it was first brought to flower, and whence it was diffused over the different gardens of England and the Continent. Its chief merits as an ornamental stove-plant consist in flowering from July until almost the end of the winter, and its gay-coloured blossoms.

Descr. A perennial herb, three to four feet high, with catkin-like *stolons*. *Stem*, *petioles*, *leaves*, and *calyx* villoso-hirsute. *Leaves* opposite, with long petioles, oval-shaped or cordate, generally with an irregularly-sided base, crenate at the margin, and acuminate at the apex. *Flowers* arranged in axillary umbels, three to six. *Calyx* attached to the ovary, five-lobed; lobes expanded

almost horizontally, like an umbrella. *Corolla* nearly straight, almost oblique at the base, with a slightly inflected tube, and a five-lobed limb, hirsute, scarlet, with the exception of the base of the tube, which is yellow, and the lobes, which are either bright yellow or yellowish-green, dotted with red or brown. *Stamens* five, four of which are fertile, bearing bilocular *anthers* connate with each other. *Ovary* hirsute, surrounded by a glandular five-lobed ring. *Stigma* bilobed. *Capsule* unilocular, many-seeded, two-valved.—*Seemann.*

Fig. 1. Pistil and hypogynous glands. 2. Ovary with ditto:—*magnified.*

Vincent Brooks Imp

Tab. 4844.

CYMBIDIUM giganteum.

Gigantic Cymbidium.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. Perianthium explanatum, petalis sepalisque subæqualibus liberis. *Labellum* sessile, liberum, ecalcaratum, concavum, cum basi columnæ nunc articulatum, nunc leviter concavum v. trilobum. *Anthera* bilocularis. *Pollinia* 2, sæpius postice biloba, in glandulam subtriangularem subsessilia. *Lindl.*

Cymbidium *giganteum;* foliis ensiformibus striatis acutis racemo cernuo multifloro longioribus, bracteis minutis, sepalis oblongis petalisque lineari-lanceolatis acutis, labelli trilobi lobis lateralibus parvis acutis basi pubescentibus intermedio multo majore ovato acuto undulato medio barbato lamellis arcuatis apice connatis pilosis. *Lindl.*

Cymbidium giganteum. *Wall. Cat. n.* 7355 (*non Willd.*). *Lindl. Gen. et Sp. Orchid. p.* 163. *Sert. Orchid. t.* 4. *Paxt. Mag. of Bot. p.* 241, *cum Ic.*

? Cymbidium iridioides. *Don, Prodr. p.* 36.

Native of Nepaul and Kamaon, where it was discovered by Dr. Wallich, and by him introduced to our gardens. The figure of this noble and fragrant species in the 'Sertum Orchidaceum' above quoted, from a drawing by Dr. Wallich's draughtsman, is so unlike our plant in the colour and form of the flowers, that we should have failed to have recognized it as the same, had it not been for the figure in the 'Magazine of Botany,' which seems intermediate between the bright, spotted, and streaked flowers of our plant and the very dull and unexpanded sepals and petals of the Indian drawing; the foliage however is faithfully represented; and certainly, though placed by Dr. Lindley in a section of which the species should be destitute of bulb, our plant has a very evident pseudobulb, clothed with the remarkable broad and sheathing bases of the leaves. Flowers with us in the stove in September and October.

Descr. Stemless. *Roots* thick, fleshy, terete. *Pseudobulb* large, oblong, leafy. *Leaves* two to two and a half feet long, distichous,

ensiform, striated, rather acute, tapering below into a narrow channelled portion, on which the blade is articulated, and this again becomes exceedingly dilated, striated, and sheathing around the pseudobulb. *Scape* two to three feet long, radical, stout, erect or declined from the weight of flowers, clothed below with lax, sheathing, brown, membranaceous scales. *Flowers* four inches in their spread, large, fragrant, distantly placed. *Bracts* very small. *Sepals* and *petals* nearly equal, two, oblong-lanceolate; the petals and two lateral sepals spreading almost horizontally, the upper or intermediate sepal bending down so as to form a kind of hood over the column; their colour is yellowish-green, externally faintly, internally strongly, streaked with blood-coloured lines and dots. *Lip* as long as the petals, recurved, bright yellow, spotted and streaked with blood-colour; *side lobes* incurved; *middle lobe* ovate, waved, ciliated; on the disc are two ciliated lamellæ, which unite at their apices. *Column* semi-terete, streaked. *Anther-case* hemispherical. *Pollen-masses* two, subtriangular, with a hatchet-shaped caudicle.

Fig. 1. Pollen-masses:—*magnified*.

Tab. 4845.

CHAMÆDOREA ELEGANS (MAS).

Elegant Chamædorea (male).

Nat. Ord. Palmaceæ.—Diœcia Hexandria.

Gen. Char. (*Vide supra*, Tab. 4831.)

Chamædorea *elegans;* caudice abbreviato stricto arcte annulato, vaginis brevibus ovato-lanceolatis apice leviter auriculatis, petiolis superne sulcatis subtus rachique dorso fascia albida, rachi superne scabra, pinnis concinnis angusto-lanceolatis utrinque acuminatis, spadicibus inter frondes laxis angulatis, fœmineis duplicato-ramosis, corollis fœmineis tridentatis, baccis subglobosis. *Mart.*

Chamædorea elegans. *Mart. in Linnæa, v.* 5. *p.* 204. *Palm. v.* 3. *p.* 159. *t. R. fig.* 3 (*analysis of portions only*). *Kunth, Enum. Pl. v.* 3. *p.* 171. *Wendl. Index Palm. Suppl. p.* 57.

Wendland, in his 'Enumeratio Systematica Chamædorearum,' has forty-two species of the genus; but it is no easy task to refer a given plant to its proper place among the species: many are but imperfectly known; of few are both the male and female plants known (and the inflorescence differs materially in the two sexes), and the difficulty is increased by the characters of the more recently described species—we allude to Mr. Wendland's in particular—being so unreasonably long, that without knowing which are really essential characters, it is impossible to derive advantage from them. Happily in the present instance we have to be guided by a character of a species of Von Martius, which, as far as that of the male plant is concerned, seems to be identical with ours, which was received from Mr. Linden, without being marked by any specific name or country. If we are right in referring it to *C. elegans* (and unfortunately the figures given by Martius are of very little help to us), it is a native of Mexico, and appears to be introduced into Europe by Messrs. Schiede and Deppe. In general habit it much resembles *C. gracilis*,

Willd. (Borassus pinnatifrons, *Jacq. Hort. Schœnbr. v. 2. p. 247 and* 249); but there the spadices originate on the naked caudex, much below the fronds, and are erect, both male and female; not drooping, as in our plant. *C. elegans* flowers in the winter and spring months.

Descr. Male: Our living plant has a *caudex* between three and four feet high, annulated with the scars of fallen leaves, rooting from above the base, slender, erect, an inch and a half in diameter, crowned with a tuft of six to eight *leaves* or fronds, which are nearly three feet long, pinnated with about fourteen, more or less broadly lanceolate, subfalcate, striated *leaflets*, the uppermost or terminal pair more or less combined. *Petiole* not one-fourth the length of the blade, triquetrous, grooved above, the lower portion forming a somewhat inflated *sheath* around the stem. From the axils of two or three of the lower leaves a *spatha* arises; this consists of two or three long, imbricating, tubular, sheathing scales, open at the extremities, and from this the long panicle of *flowers* depends, almost as long as the leaves. The *branches* are slender, terete, flexuose, almost filiform, green, studded with small flowers, but conspicuous from the rich orange-colour of the corollas. *Calyx* scarcely immersed, yet situated in a small depression, cup-shaped, trifid, white, the lobes round. *Petals* three, combined at the base, cymbiform, thick, erecto-patent, bright orange. *Stamens* six, not longer than the petals. *Anther* oblong. Rudiment of the *pistil* oblong, tapering, with a triangular jagged stigma.

Fig. 1. Portion of a panicle of male flowers:—*nat. size.* 2. Portion of the rachis, with flowers. 3. Single flower:—*magnified.*

Tab. 4846.

BERBERIS Bealei; var. *planifolia.*

Mr. Beale's Chinese Berberry; flat-leaved var.

Nat. Ord. Berberideæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4308.)

Berberis (Mahonia) *Bealei;* foliis atro-virentibus subglaucis crasso-coriaceis rigidissimis, foliolis 4–5-jugis ovatis sinuatis grosse parce (5–6) inæqualiter spinoso-lobatis valde pungentibus infimis subrotundatis ad basin petioli stipulæformibus terminali petiolato, racemis fasciculatis, petalis apice bifidis.

α.; foliis basi magis minusve cuneatis, sinuum marginibus reflexis. Berberis Bealei, *Fort. in Gard. Chron.* 1850. *p.* 212. B. Japonica, *Lindl. in Fl. Gard. v.* 1. *p.* 11 (*with woodcut of a portion of a very large leaf, f.* 2).

Mahonia Japonica. *De Cand. Syst. Veget. v.* 2. *p.* 22?

Ilex Japonica. *Thunb. Fl. Jap. p.* 77? *Ic. Jap. t.* 22?

β. planifolia; foliis subdeltoideis (basi transversim truncatis) crassissimis subimbricatis, petiolis purpureis, floribus minoribus. (Tab. Nostr. 4846.)

We are indebted to Messrs. Standish and Noble for two very different-looking plants of *Berberis*, introduced by Mr. Fortune to this country from China, from a district considerably to the north of Shanghai; one marked *B.* (Mahonia) *Japonica* and the other marked *B. Bealei.** By Dr. Lindley, *l. c.*, the two names are considered to belong to the same plant, "*Berberis Japonica*, Lindl. (Ilex Japonica, *Thunb.*), alias *B. Bealei*, Fort." The one bearing the latter name resembles the plant so strangely referred by Thunberg to *Ilex*, and we propose to give an early figure of it, under the name however of *B. Bealei*, since we cannot satisfy ourselves it is identical with Thunberg's Japan species. The other kind we received from Messrs. Standish and Noble, the one here given, has points of difference which at first led me to consider it as distinct; but I think it safest to record it only as a variety. Indeed we shall have occasion to show that *B. Japonica* may be one of the many forms of *B. Nepalensis*, to

* Since the above was in type we have received a third hardy Chinese kind, *B. intermedia*, Stand. and Noble, and a fourth most remarkable species, *B. trifurca*, Lindl. All are eminently beautiful plants, and we shall soon notice them more particularly.

April 1st, 1855.

which Mr. Don, in his Prodr. Fl. Nep., and Drs. Hooker and Thomson, in their Fl. Indica, ined., have unhesitatingly referred it, though probably in both cases without having seen any authentic (Japanese or Chinese) specimens of Thunberg's plant. Our present object is however to notice the differences between the plant now before us and what we shall consider *B. Bealei vera*. It has much smaller and denser flowers,—twice the number, at least, in the same length of raceme; the bracts, the rachises, the petioles especially, and even the scales on the young branches, are tinged with red or dark purple; the leaves are shorter and more compact, the leaflets thicker, almost imbricated, and more deltoid in form,—that is, having the base truncated and almost lapping over the base of the opposite one; and what is still more remarkable, singularly plane on the surface, the margins between the spines by no means reflexed as in true *Bealei* (and as in the leaf of the Holly). It proves perfectly hardy, and has stood quite unharmed through our late severe winters. Both are in blossom with us in March, in a cool house.

Descr. Our *plant* is at present scarcely a foot high. The young branches are moderately stout, pale glaucous-green, scaly, with purplish-brown, lanceolate, appressed *scales*. *Leaves* spreading, the largest of our plant a foot long,* with usually four, never more than five, pairs of opposite *leaflets*, including the lowest pair, which are more distant from the rest, and so close to the stem as to have quite the appearance of large stipules: the terminal leaflet is petiolate and cordato-ovate, the rest are deltoid-ovate, spreading horizontally, thick, coriaceous, the base truncate, its whole breadth closely applied to, and even lapping over, the rachis, quite plane on the surface, sinuato-spinose, the spines few (five to six), strong and pungent, the lowest pair are the most deltoid, and the terminal leaflet is almost exactly ovate, subcordate at the base, and has the most spines (seven to nine): the *colour* is very dark, opaque, green above, and slightly glaucous, paler and not at all glaucous beneath: the *rachis* is dark purple, nodose at the setting on of the leaflets. *Racemes* in a terminal fascicle, springing from an *involucre* of several, herbaceous, broad, ovate, green *scales*, tipped with purple. *Rachis* terete, tinged with purple: the lower part destitute of flowers, but scaly, with spreading bracts, the same which are at the base of the short pedicels, herbaceous, red-purple. *Flowers* small, secund, drooping, crowded. *Corolla* yellow: *petals* bifid at the apex.

Fig. 1. Flower. 2. Petal and stamen. 3. Pistil:—*magnified.*

* These leaves vary remarkably in size. Messrs. Standish and Noble have sent us a tracing of a terminal leaflet which measures eight inches long and rather more than six broad!

Tab. 4847.

GARCINIA Mangostana.

Mangosteen, or Mangostan.

Nat. Ord. Guttiferæ.—Dodecandria Monogynia.

Gen. Char. Flores monoici, vel divisi. *Calyx* persistens, ebracteolatus, tetraphyllus, foliolis subæqualibus, imbricatis. *Corollæ* petala 4, hypogyna, calycis foliola alterna, æstivatione imbricato-convoluta.—Masc. *Stamina* plurima, receptaculo carnoso quadrangulari inserta, libera vel ima basi coalita; *filamenta* filiformia, brevia; *antheræ* introrsæ, biloculares, erectæ, loculis longitudinaliter dehiscentibus. *Ovarii* rudimentum.—Fœm. *Stamina* sterilia 8–30; *filamenta* distincta, vel monadelpha, aut tetradelpha, fasciculis cum petalis alternantibus, glandulis nullis interjectis. *Ovarium* liberum, 4–10-loculare. *Ovula* in loculis solitaria, e basi erecta, anatropa. *Stylus* terminalis, brevis; *stigma* late peltatum, sublobatum. *Drupa* carnosa, balsamiflua, stylo superata, putamine chartaceo 4–10-loculari. *Semina* in loculis solitaria, erecta, pulpa carnosa involuta; testa coriacea. *Embryo* exalbuminosus, orthotropus; *cotyledonibus* crassis, carnosis, conferruminatis; *radicula* brevissima, infera.—Arbores *Indicæ*, foliis *oppositis*, *petiolatis*, *coriaceis*, *integerrimis*, *nitidis*, stipulis *nullis*, floribus *terminalibus vel axillaribus*. *Endl.*

Garcinia *Mangostana;* foliis elliptico-oblongis acuminatis coriaceis, floribus terminalibus solitariis "masculis fasciculatis," bacca pomiformi globosa lævissima stigmate 5–8-radiato coronata.

Garcinia Mangostana. *Linn. Sp. Pl. p.* 615. *Willd. Sp. Pl. v.* 2. *p.* 838. *Roxb. Fl. Ind. v.* 2. *p.* 618. *Spreng. Syst. Veget. v.* 2. *p.* 448. *Aiton, Hort. Kew. ed.* 2. *v.* 3. *p.* 143. *Marsd. Sum. Atl. t.* 3.

Mangostana Garcinia. *Gært. Fruct. v.* 2. *t.* 105.

Mangostana. *Rumph. Herb. Amb. v.* 1. *p.* 43.

That the Art, or rather, as it may assuredly now be called, the Science of Horticulture, is brought to greater perfection in England than anywhere else, is a fact, we presume, generally admitted; and if we were required to point out instances of the greatest triumphs in this line, we would, at this moment, direct attention to that most striking of all trees, for health and beauty, the *Camellia reticulata*, at Bank Grove, Kingston, Surrey, the seat of Byam Martin, Esq.; and the fruit-bearing *Mangosteen*, at Syon, the subject of our present plate. It is but a few days

ago that we were privileged to see the former (*Camellia*), from which upwards of 4500 flower-buds had been removed, lest the tree should be too much weakened, while more than that number were left to expand, affording a succession of blossoms, from six to eight inches each in diameter, so close set upon the branches that they often touched each other, yet allowing ample view of the handsome reticulated foliage (characteristic of the species), and continuing some weeks in an almost equal state of perfection, to the gratification of innumerable visitors, who have been generously permitted to inspect it. The next day word was brought to us from Syon, that the noble *Mangosteen* plant there (of which we already possessed drawings of the flowering specimens) was bearing ripe and ripening fruit. Our drawing represents both states. It is well known that His Grace the late Duke of Northumberland encouraged the cultivation of tropical fruits, built stoves especially for *them*, and was eminently successful—witness the ripening of the *Chocolate*, the *Nutmeg*, *Cloves*, *Litchis*, *Vanilla*, and other rarities. Happily for Horticulture, the present Duke has trodden in his noble brother's steps, and under the skilful management of Mr. Ivison it is, that the *Mangosteen* has borne flowers* and ripened its fruit. In appearance, the fruit is *quite* perfect; but it remains yet to be ascertained what its flavour may prove.† The tree is a native of the Moluccа Islands, but its cultivation has extended to the Malay Archipelago; beyond which, it would appear, that all attempts to grow the tree well, and mature the fruit, have been hitherto unsuccessful; and it is an acknowledged fact that only those persons who have visited the Eastern Archipelago have been able to indulge in this highly prized fruit. In Bengal, especially in the noble Botanic Garden there, we naturally look for the products of the adjacent islands: but Dr. Roxburgh, in his 'Flora Indica,' says, "From the earliest accounts we have of this charming tree and its delicious fruit, we learn that all the innumerable attempts hitherto made to familiarize it to other countries (than the Malay Peninsula, and islands to the eastward of the Bay of Bengal) have uniformly proved unsuccessful. For these thirty-five years past I have laboured in vain to make it grow and be fruitful on the continent of India. The plant has

* We should not do justice to the Leigh Park Gardens, and the skill and abilities of Mr. Scott, the intelligent gardener of Sir George Staunton, did we not say that he has succeeded in flowering the *Mangosteen* at the same time (during the past winter), but the fruit failed.

† While this sheet was in the press we were honoured by being invited to partake of a ripened fruit by His Grace the Duke of Northumberland. The fruit had *no seed*. The edible part is the pulp of the cells, and these cells separate easily from each other, like the cells or lobes of an orange. The flavour was delicious, and compared by some who partook of it to that between a first-rate peach and of a good grape.

uniformly become sickly when removed to the north or west of the Bay of Bengal, and rarely rises beyond the height of two or three feet before it perishes."

Rumphius, writing on this tree, says:—"Ejus fructus ex testimoniis omnium Indorum, apud quos reperitur, optimus ac saluberrimus habetur omnium reliquorum fructuum." And all recent travellers bear the same testimony to its excellence. We will only give that of Dr. Abel, when speaking of the fruits of Batavia:—"First, in beauty and flavour, was the celebrated *Mangostan*. This, which has been so often eulogized by travellers, certainly merits much of the praise that has been lavished upon it. It is of a spherical form, of the size of a small orange: is, when young, of a reddish-green colour; when ripe of a reddish-brown; and when old of a chestnut-brown colour. Its succulent rind is nearly the fourth of an inch in thickness. It contains a very powerful astringent juice, and in wet weather exudes a yellow gum, which is a variety of gamboge. On removing the rind, its esculent substance appears in the form of a juicy pulp, having the whiteness and solubility of snow, and a refreshing, delicate, delicious flavour. To define it by more precise language, is very difficult. We were all anxious to carry away with us some precise expression of its qualities; but after satisfying ourselves that it partook of the compound taste of the pine-apple and peach, we were obliged to confess that it had many other equally good, but utterly inexpressible, flavours. From its perfect wholesomeness, it may be eaten in any quantity; and as it possesses no luscious qualities, it does not soon cloy the palate."—It is not a little singular that a plant, nearly allied to the Gamboge, should yet yield so wholesome a fruit. The rind is astringent, and employed in cases of dysentery, and the bark of the wood is used as a dye.

Descr. In our stoves we are not aware that the *Mangosteen* plant has attained a greater height than ten or twelve feet. In the Malay Islands it is said to be twenty feet. Dr. Roxburgh speaks of it as a *tree* of a "large size, with a straight trunk and numerous spreading opposite branches and branchlets, forming an elegant conical head." Young *branches* terete, green, abounding in yellow juice. *Leaves* opposite, six to eight inches long, thick and coriaceous, glossy, elliptical-oblong, acuminate, penniveined, the veins close and parallel, almost horizontal. *Petiole* short, thick, sometimes transversely wrinkled. *Flowers*, in the plant under our examination, solitary, terminal, on a short stalk, (Roxburgh says the perfect flowers are solitary, those which have stamens only, fascicled,) bearing imperfect? stamens and pistil. *Calyx* of four large, imbricated, thick, pale green, suborbicular *sepals*. *Corolla* dirtyish red colour, pale on the underside, of four spreading, suborbicular *petals*, longer than the calyx. *Stamens*

twelve to fourteen, small, and *apparently* weak and imperfect, yet polliniferous. *Filaments* short, much shorter than the pistil, slender, all arising from a narrow, white, annular ring. *Anther* subglobose, two-celled; *cells* opposite, white. *Ovary* large, globose, six-celled. *Stigma* very large, almost as large as the ovary, six- to eight-rayed, *rays* obtuse, coherent with the top of the ovary. *Fruit* a large, globose, succulent *berry*, subtended by the persistent calyx, and crowned with the persistent stigma, deep purple-brown, more or less tinged with yellow or dull orange, and exuding yellow drops of juice, five- to eight-celled, each cell one-seeded.

Fig. 1. Flower-bud. 2. Back view of a flower. 3. Stamens and pistil. 4. Stamens. 5. Transverse section of ovary:—*all more or less magnified.* 6. Fruit:—*natural size.* 7. Transverse section of ditto (from Gærtner):—*natural size.*

5

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3

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W. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4848.

EUPOMATIA laurina.

Laurel-like Eupomatia.

Nat. Ord. Anonaceæ.—Polyandria Polygynia.

Gen. Char. Perigonium tubo turbinato, cum ovario connato, limbo supero, juxta basin operculo semielliptico caduco transversim dehiscens. *Stamina* plurima, margini persistenti limbi perigonialis multiseriatim inserta, basibus connata, exteriora fertilia, patula vel reflexa, filamentis e basi lata subulatis, *antheris* bilocularibus, loculis linearibus adnatis connectivo in mucronem producto superatis, longitudinaliter dehiscentibus, interiora sterilia, petaloidea, sensim minora, arcte imbricatim conniventia. *Ovarium* inferum, multiloculare, loculis sparsis, ad angulum centralem multiovulatis. *Stigma* sessile, planiusculum, areolis subrotundis loculorum numero notatum. *Bacca* turbinato-obovata, limbi perigonialis margine angusto coronata, apice truncato areolata, multilocularis. *Semina* in loculis solitaria vel gemina, angulata, impresso-punctata; *umbilico* basilari, *rhaphe* chordæformi, *testa* membranacea, *endopleura* tenuissima. *Albumen* carnosum, testæ processubus lobatum, ejusdem prolongatione secundum rhaphem semibipartitum. *Embryo* in basi albuminis prope umbilicum minutus; *cotyledonibus* linearibus, foliaceis; *radicula* tereti.—Frutex *Novæ-Hollandiæ Orientalis extra-tropicæ, erectus, ramosus;* trunco *gracili*, ramis *teretibus, subporrectis;* foliis *alternis, bifariis, petiolatis, exstipulatis, impunctatis, coriaceis, utrinque nitidis, integerrimis;* pedunculis *axillaribus, unifloris, folio brevioribus, ramuliformibus, foliis alternis, nanis bracteatis. Endl.* (*ex Br.*).

Eupomatia *laurina*.

Eupomatia laurina. *Br. Bot. of Terra Austr. p.* 65, *Atlas, t.* 2.

This remarkable Australian plant, which the learned author of the genus says, "forms an unexpected addition to *Anonaceæ*, of which it will constitute a distinct section, remarkable in the manifestly perigynous insertion of its stamina and the cohesion of the tube of its calyx with the ovarium," has been hitherto described by no botanist but Mr. Brown, who gives for its localities woods and thickets in the colony of Port Jackson, especially in the mountainous districts, and on the banks of the principal rivers; flowering in December and January. Yet, rich as our Herbarium is in Australian plants, we never had the good fortune to procure a specimen; and great as our botanical intercourse has been with Australia, our garden has never possessed the

plant,* nor had we ever seen a specimen, till the Messrs. Henderson, of Pine Apple Place, were so good as to send us, in March of the present year, a plant, from which our present figure is taken. Through what channel the plant came into Messrs. Henderson's possession, they are not aware. It was neglected, from having produced no flowers, for a long time, and the blossoming brought it to immediate notice; for these blossoms are exceedingly curious in structure, and of great botanical interest. "A singular part of the structure of *Eupomatia*," Mr. Brown goes on to state, "consists in its internal barren, petal-like stamens, which, from their number and disposition, completely cut off all communication between the antheræ and stigmata. This communication appears to be restored by certain minute insects eating the petal-like filaments, while the antheriferous stamina, which are either expanded or reflected, and appear to be even slightly irritable, remain untouched."

There are some differences between our plant and the figures made by Mr. Bauer and description of Mr. Brown, but not sufficient to justify us in forming of it a distinct species. Most of Mr. Brown's description is included in Endlicher's Gen. Char. above given.

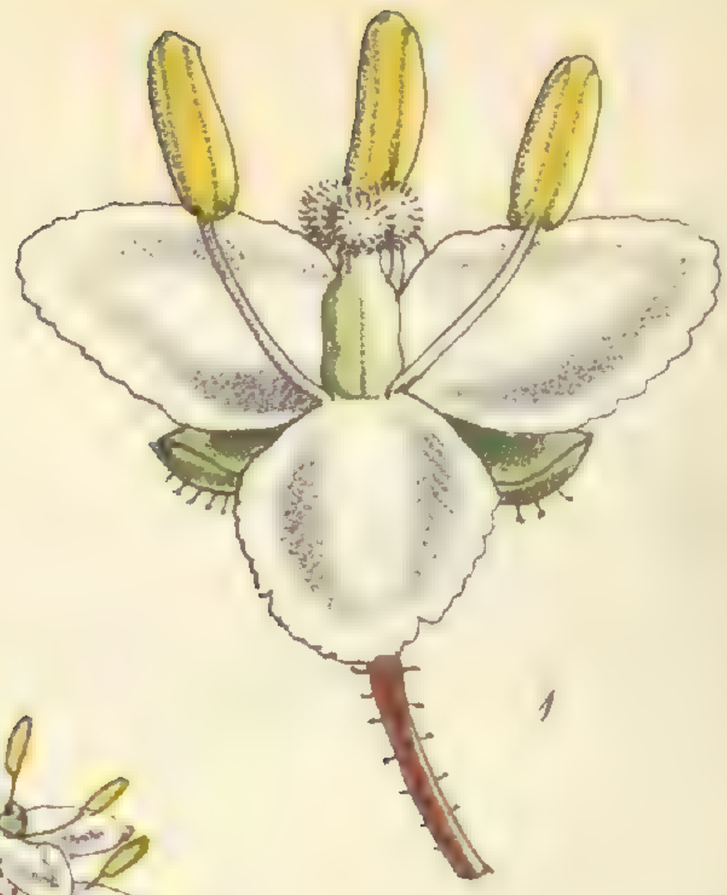
Descr. The *plants* we have seen from Mr. Henderson are young, and at present not more than a foot high, shrubby, branched. *Leaves* sempervirent, broad-lanceolate, acuminate, somewhat cuneate at the base; *petiole* very short. *Flowers* solitary, terminal on short branches. We have not seen the bud with its curious deciduous hemispherical *operculum*, which constitutes, Mr. Brown observes, *the only floral covering*. The *flower* then, as seen in our figure, consists of a turbinate green receptacle, on the thickened edge of which the numerous stamens are arranged in many series, of which the outer are antheriferous, consisting of a broad subulate *filament*, with a linear *cell* on each margin, opening longitudinally: all the inner stamens are abortive, large, petaloid, obovate, yellow, stained with orange or blood-colour at the base, especially the inner ones, and have exactly the appearance of a many-petaled corolla, of which the outer ones spread so as to cover and conceal the perfect stamens, while the inner ones are connivent, and almost conceal the ovaries. The outer of these petaloid stamens have the disc beset with conspicuous, stipitate, globose glands, and the margin with stellated hairs, while the rest have, both on the disc and on the margin, the stipitate glands. (In Mr. Brown's plant the petaloid abortive stamens are small and all connnivent, much shorter

* A shrub indeed, called by this name, and sent as such by Allan Cunningham, more than thirty years ago, to Kew Gardens, proves to be something quite different. The leaves have the fragrant smell of some Laurineous plant, but the plant has never produced blossoms.

than the spreading fertile stamens, and destitute of the remarkable glands and stellated hairs.) The flattened *disc* of the *receptacle* bears on its surface, what appears at first sight a many-celled depressed ovary, and so our figures make them appear; but a careful dissection will show it to be composed of a number of ovaries, all on the same plane, and incorporated into a mass, each terminated by its slightly elevated but sessile penicillate or tufted *stigma*, one-celled, the cell containing four or five horizontal ovaries attached to one side of the cell. The *fruit* is unknown to me, and I refer to Mr. Brown's figure and description for it.

Fig. 1. Vertical section of a flower, from which the operculum had fallen. 2. Perfect stamen. 3. Outer abortive petaloid stamen. 4. Inner ditto. 5. Receptacle from which the stamens (fertile and barren) are removed, and showing the disc bearing the united pistils. 6. Section of two of the coadunate ovaries; but there should have been in this more magnified figure, a faint vertical line distinguishing the ovaries, and a transverse line below, as the separation from the receptacle:—*all more or less magnified.*

4849



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= Callisia martensiana, C.B. Clarke in DC. Mon. Phan. III. 312

Tab. 4849.

TRADESCANTIA Martensiana.

Martens' Spiderwort.

Nat. Ord. Commelyneæ.—Hexandria Monogynia.

Gen. Char. Flores regulares. *Sepala* 6, libera, patentia; tria exteriora navicularia, persistentia; tria interiora majora, petaloidea, breviter unguiculata, marcescendo persistentia. *Semina* 6, subhypogna, omnia fertilia. *Filamenta* libera, plerumque barbata. *Antheræ* conformes, loculis reniformibus, connectivo varia forma distinctis, interdum tres sepalis exterioribus oppositæ robustiores, loculis replicatis, extrorsæ, filamentisque brevioribus sustentæ. *Ovarium* sessile, triloculare; *ovula* in loculis 2, superposita. *Stylus* 1. *Stigma* simplex, obtusum, infundibulare vel peltato-ampliatum. *Capsula* trilocularis, trivalvis; valvis medio septiferis. *Semina* bina, superposita, angulata.—Herbæ *Americanæ, erectæ vel diffusæ, sæpe repentes.* Folia *indivisa.* Vaginæ *integræ.* Pedunculi *axillares et terminales, solitarii, gemini vel plures, apice umbellato-pauci-multiflori, sæpe brevissimi, subnulli folioque duplici involucrati. Kunth.*

Tradescantia *Martensiana;* pubescenti-glandulosa, caule procumbente geniculato radicante apice nudo, foliis oblongo-ovatis acuminatis sessilibus vaginatis, vaginis villosis, panicula terminali elongata effusa ditrichotoma, pedunculis fasciculatis umbelliferis ex axilla bracteæ scariosæ vaginantis, pedicellis calycibusque pubescenti-glandulosis, floribus triandris, petalis albis, filamentis glabris, antheris oblongis, stylo perbrevi, stigmate trilobo lobis globosis hirsutis.

Tradescantia Martensiana. *Kth. Enum. Pl. v.* 4. *p.* 697; Commelina multiflora, *Mart. et Galeot. En. Synops. Pl. Mex. p.* 3.

It is not a little remarkable that a plant of Mexico, possessing so little beauty as the present, should come to us *viâ* the East Indies: but certain it is that the Royal Gardens of Kew received the present *Tradescantia* from Mr. Manley, of Calcutta: and no sooner did our late lamented friend Dr. Wallich see it growing in our stove, than he assured us it was a plant with which he was familiar at the Calcutta Botanic Garden, where it was considered an exotic, and it was endeared to him in consequence of the powerful smell of violets emitted by the flowers. Our Herbarium shows the plant to be a native of Mexico (Xalapa, *Linden*, and Martens and Galeotti), and Guatemala (Mr. Skinner), and the *T. Martensiana*, Kth. l. c. Messrs. Martens and Galeotti

say of it, "Flores odorem *Violæ odoratæ* spirant;" and Mr. Skinner observes upon his specimens, "sweeter than violets." On this account it is worthy of cultivation in every stove, and it flourishes in damp earth among *Lycopodia*, and in situations suited to the growth of tropical Ferns.

Descr. Whole plant more or less glandulose-pubescent. *Stems* branched from below, terete, striated, one foot to one and a half foot long, decumbent, the lower part closely, the upper more distinctly, clothed with the sheathing basis of the alternate *leaves*: these latter are sessile, oblongo-ovate, acuminate, striated, the base obtuse, almost cordate, suddenly contracted into the very hairy, striated, cylindrical, submembranaceous *sheath*, which surrounds the stem. The stem becomes more slender upwards (with the leaves gradually smaller), and passes into the terminal *panicle*, a span or more long: the *branches* di-trichotomous, slender, the ultimate ones bearing an umbel of small, white, but excessively fragrant, flowers, having exactly the odour of sweet violets. *Bracteas* ovato-lanceolate, the lower ones sheathing at the base. *Calyx* of three, green, glanduloso-pilose spreading *sepals*. *Corolla* of three, ovate, white, spreading, crenulate, obtuse *petals*. *Stamens* three (only), alternating with the petals; *filaments* naked; *anthers* oblong, subsagittate. *Ovary* oblong, glabrous. *Style* very short. *Stigma* of three, rather large, penicillate lobes.

Fig. 1. Flower. 2. Transverse section of ovary:—*magnified*.

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W. Finch. del et lith.

Vincent Brooks Imp.

STREPTOCARPUS POLYANTHUS.

Many-flowered Streptocarpus.

Nat. Ord. Cyrtandraceæ.—Diandria Monogynia.

Gen. Char. Calyx 5-partitus, persistens, æqualis. *Corolla* tubuloso-infundibuliformis, tubo calycem duplo vel multoties superante, *fauce* ventricosa, *limbo* obliquo 5-lobo subæquali. *Stamina* 5, *anteriora* 2 fertilia, antheris glabris connatis, loculis divaricatis, superiora 3 sterilia, tubo omnino adnata, apice tuberculiformia. *Ovarium* teres, elongatum, rectum, 1-loculare, fere 4-loculare, placentis 2 didymis lamellis conniventibus dissepimentum spurium formantibus utrinque revolutis margine ovuliferis. *Stylus* linearis. *Stigma* bilabiatum, lobis reniformibus inferiore vix majore. *Capsula* siliquæformis, teres, apice depressa, spiraliter torta, loculicide dehiscens, ovarii structuræ conformis. *Semina* plurima, minuta, oblonga.—Herbæ *Austro-Africanæ, acaules, cæspitosæ vel caulescentes.* Folia *opposita.* Scapi *plurimi*, 1- (2- *vel pluri-*)*flori, juniores circinatim involuti.* Corollæ *pallide cæruleo-purpurascentes, intus lineis purpureis notatæ. De Cand.*

Streptocarpus *polyanthus;* foliis omnibus radicalibus humifusis amplis cordato-oblongis crenatis rugosis pubescentibus, scapo elongato bifido ramis paniculatis plurifloris, corollis hypocrateriformibus, tubo curvato, limbo valde obliquo profunde 5-lobo, lobis cuneatis dentatis.

Among the roots of some living Ferns, kindly brought to us from Natal by Captain Garden, there appeared, in the summer of 1853, seedlings of a plant, whose leaves, few in number and pressed close to the soil, gradually developed themselves, till the larger ones, in the following season (December), became a foot long. From between the sinuses of these leaves and directly from the root there emerged one to three scapes, attaining altogether a foot in height, bearing good-sized panicles of pale-blue flowers, which proved to be those of an undescribed, if not wholly unknown, species, of the curious genus *Streptocarpus*, such as we have here represented; but it was quite impossible to include the entire foliage in an octavo page. A dried specimen of the same plant, and from the same country, we possess in our Herbarium, from our friend Mr. Sanderson; and it is, in

all probability, the "*Didymocarpus?*" thus mentioned in Krauss' 'Natal Flora,' p. 122, "e summis montibus inter Mauritzburg et Natalbay, alt. 2000–3000." It is as a species widely different from the only hitherto described South African species, *S. Rexii*; and equally, or more so, from the Madagascar species of Brown and De Candolle, all of which are caulescent, with axillary inflorescence.

Descr. *Leaves* few, about two pair lying close to the ground, and, as it were, pressed down upon the soil: these pairs are extremely unequal in size; one is nearly a foot long in our living plant, the opposite one scarcely two inches; both are alike in shape, cordato-oblong, rugose, downy, reticulately veined, the margin somewhat undulated and closely crenated: beneath, the veins are prominent, and the surface more downy. From one to three *scapes* arise from the sinus of the large leaf, a foot and more high, bearing a panicle, often bifid in the primary ramification, and many short divaricating subfasciculated *pedicels*, rarely bracteated, downy. *Calyx* hairy, with a short ovate *tube*, and five erect linear teeth or lobes to the *limb*, of which one is nearly twice the length of the rest. *Corolla* an inch and a half long, and as broad in the limb, delicate pale-blue, veined. *Tube* much curved; *limb* very oblique, of five, spreading, reticulated, cuneated, toothed *lobes*. *Stamens* inclined: *fertile* ones two, inserted near the middle of the tube: *sterile* ones near the base. *Filaments* hairy. *Ovary* cylindrical, hairy, with a short cylindrical *style* and conical *stigma*.

Fig. 1. Stamens. 2. Calyx and young fruit:—*magnified*.

Vincent Brooks Imp

Tab. 4851.

THYRSACANTHUS Schomburgkianus.

Schomburgk's Thyrsacanthus.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4378.)

Thyrsacanthus *rutilans;* fruticosa, ramis subtetragonis, foliis subsessilibus lato-lanceolatis acuminatis inferne attenuatis pilosulis margine subintegerrimis, racemis axillaribus terminulibusque laxis longis pendulis plurifloris, bracteis floralibus subulatis, pedicellis brevibus, floribus oppositis, calycibus 5-partitis pilosis laciniis subæqualibus subulatis, corollæ infundibuliformi-tubulosæ coccineæ limbo parvo 5-lobo lobis subæqualibus erecto-patentibus, **staminibus inclusis sterilibus brevibus capitatis.**

Thyrsacanthus Schomburgkianus. *Nees in Benth. Pl. Schomb. Lond. Journ. of Bot.* 1845, *p.* 636. *n.* 71 *et* 147, *et in Herb. Nostr. De Cand. Prodr. v.* 11. *p.* 325.

Thyrsacanthus rutilans. *Planchon and Linden* (*coloured figure circulated*). *Paxton's Fl. Gard. v.* 3. *p.* 73 (*with woodcut*).

One of the most striking plants exhibited by the Horticultural Society during their interesting winter meetings in Regent-street (1854–5) was undoubtedly that of which the present is a figure of a small specimen. The shrub is a native of South America, and would appear to have a very extended range. Its discovery is due to C. S. Parker, Esq., in British Guiana, where Sir Robert Schomburgk afterwards detected it; and it has lately been found by Mr. Schlim in New Granada, near Ocaña, at an elevation of 4000 feet above the level of the sea, and has been dispersed by the Belgian Gardens. It seems to flower in the stove nearly all the year round. Dr. Lindley remarks of it, when alluding to the winter plants flowering in the Horticultural Society's Garden (Chron. March 3, 1855): "One of the most ornamental of these is *Thyrsacanthus rutilans*, a stove-plant, as yet scarcely known; but which should be in every collection, as it really is one of the handsomest things that has been introduced

for years. It produces great quantities of brilliant, crimson, tubular flowers, attached near the ends of long, branched, drooping flower-stems, which, when tied out a little, so as to fully expose the blossoms to view, render the plant very effective. The flowers also keep a long time in perfection, a desirable property at all times, and especially at this season of the year." This is no exaggerated statement, as the public had an opportunity of witnessing by the noble plants exhibited at the Society's rooms the following Tuesday, when they attracted the attention of every visitor.

DESCR. Our *plants* are two to three feet high, branched, the *branches* subterete, glabrous, as is almost every part of the plant, and twiggy. *Leaves* a good deal confined to the young and tender shoots, nearly sessile, broadly lanceolate, acuminate, penninerved. *Racemes* axillary and terminal, one to two feet and more long; their *branches* few, slender, and gracefully drooping, below bracteated with subulate, opposite *bracts*, the rest bearing good-sized flowers in opposite pairs, drooping. *Pedicels* short. *Calyx* slightly hairy, deeply cut into five, subulate, erecto-patent *lobes*. *Corollas* nearly two inches long, rich crimson, tubuloso-clavate; the *limb* small, of five, erecto-patent, nearly equal, obtuse teeth. *Stamens* included, two perfect, inserted a little below the middle of the tube. *Anthers* oblong; two abortive, small, capitate at the apex. *Ovary* oblong, seated on a conspicuous *gland*. *Style* a little exserted. *Stigma* minute, bifid.

Fig. 1. Calyx and ovary. 2. Pistil:—*magnified*.

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Tab. 4852.

BERBERIS Bealei.

Mr. Beale's Chinese Berberry.

Nat. Ord. Berberideæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4308.)

Berberis (Mahonia) *Bealei;* foliis crasso-coriaceis rigidissimis, foliolis 4–5-jugis ovatis sinuatis parce (5–6) spinoso-dentatis valde pungentibus infimis subrotundatis ad basin petioli stipulæformibus terminali petiolato, racemis fasciculatis, petalis apice bifidis.

Berberis Bealei. *Fort. in Gard. Chron.* 1850, *p.* 212. *Hook. Bot. Mag. Tab.* 4845. *Var.* planifolia.

Berberis Japonica. *Lind. in Fl. Gard. v.* 1. *p.* 11, *with woodcut.*

Mahonia Japonica? *De Cand.*

Ilex Japonica. *Thunb. Jap. p.* 79. *Ic. t.* 32.

One remarkable state of this plant, as we believe it to be, has been figured by us at our Tab. 4846, under the name of *B. Bealei, planifolia*. Fortune discovered the one now figured, as related in the 'Gardeners' Chronicle,' above quoted, in China, about 150 miles north of China, in the district of Hwuy-Chow. "The shrub was about eight feet high, much branched, and far surpassing in beauty all the known species of *Mahonia*." "Sir William Hooker," he continues, "informs me that this may be the plant which Thunberg calls *Ilex Japonica*, figured and described by Thunberg" (which Mr. Brown had long ago properly referred to *Berberis*), and I think so still, and Dr. Lindley has expressed the same opinion very confidently; while, on the other hand, Mr. Don, in his 'Flora of Nepaul,' and Drs. Hooker and Thomson, in their printed, but yet unpublished, 'Flora Indica,' have unhesitatingly, without having seen authentic specimens, referred Thunberg's plant to *B. Nepalensis*, Wall.; a species with very long leaves, bearing numerous pairs of leaflets, of a narrower form, more membranaceous texture (I am comparing

our Chinese plant, for Thunberg's figure is very unsatisfactory), narrower and less pungent leaves, strongly veined. On referring to Mr. Bentham's Herbarium however, we find a Japan specimen (leaf only), gathered by Siebold in Japan, and this is clearly identical with *B. Nepalensis!* and we certainly do find in some of our *Indian* specimens, here and there, leaves which exhibit the varied forms of leaflets, the same rigid coriaceous texture, and very pungent spines seen in all our states of *J. Bealei*. There is no reason whatever for retaining the name of *Japonica*, in this instance so long buried and lost as it were in the genus *Ilex;* and, though a further acquaintance with the Japan and Chinese Berberries *may* show our *Bealei* to be a distinct species, the probability is that it will be found to merge into the well-known *B. Nepalensis*. I may here observe, too, that Messrs. Standish and Noble have sent me, from their Bagshot Nursery, another sort of *Berberis* from China, akin to the present, having longer leaves, concave on their upper surface, and more approaching *B. Nepalensis:* in no way, I think, really distinct from *B. Bealei*,—all highly ornamental, and, horticulturally speaking, different from each other. But, handsome as these are, they fall far short in beauty of Dr. Lindley's *B. trifurca*, Lindl. in Paxton's Fl. Garden, p. 57, n. 525, where the woodcut of a portion of the leaf will give a better idea of the plant than any description can do. The form of the leaflets is nearly oblong, the upper half scarcely spiny, except in the three terminal spines, which point forward and have the intermediate of the three bent back: the venation is strong, the margins always refracted, the ultimate leaflet always sessile, the petiole and rachis dark purple. It has not yet flowered; but in its foliage it is the Prince of Berberries.

Descr. Our description of the variety of *B. Bealei* given at Tab. 4846, and our respective figures, will indicate the characters of the two better than any laboured description. The leaflets are here more undulated, the margin between the spines reflexed, and the base more or less cuneate: in our present plant the flowers are much larger, and much less numerous on the racemes.

Fig. 1. Flower. 2. Petal and stamen. 3. Pistil:—*magnified*.

Tab. 4853.

DENDROCHILUM GLUMACEUM.

Glumaceous Dendrochilum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepala* et *petala* æqualia, libera, patentia. *Labellum* integerrimum, sepalis subconforme, basi concavum v. carinatum, nunc cristatum. *Columna* brevis, semiteres, antice processubus duobus cornua referentibus, apice dentata v. rostrata. *Pollinia* 4, libera (⁂), incumbentia.—Herbæ *supra arbores vigentes*, foliis *coriaceis in pseudobulbis sæpius solitariis.* Spicæ *terminales aut laterales, filiformes, multifloræ.* Flores *juniores bracteis bifariam imbricatis occulti. Lindl.* (character ex Blume).

Dendrochilum *glumaceum;* pseudobulbis aggregatis fusiformi-ovatis, foliis solitariis lato-lanceolatis striatis inferne in petiolum (squama ampla vaginatum) longe attenuatis, spica elongata lineari-oblonga compressa alba, floribus distichis, sepalis petalisque paullo minoribus acuminatis, labelli trilobi basi bilamellati lobis lateralibus abbreviatis inflexis subacutis intermedio orbiculari, columna utrinque unidentato dente spiniformi elongato, apice bifido laciniato.

Dendrochilum glumaceum. *Lindl. Bot. Reg.* 1841. *Misc. p.* 23. *n.* 58.

With small flowers, and those possessing no colour to recommend them, we yet consider this one of the most elegant and graceful of Orchideous plants, and most desirable for cultivation. It is easily increased, the small pseudobulbs growing in masses: the leaves are ample for the size of the plant, sheathed below with large coloured scales, and the many spikes of ivory-white, close-set, distichous flowers, drooping from the extremity of a slender, almost filiform, curved stalk, cannot fail to attract attention. It is a native of the Philippines, and was imported by Mr. Cuming. It is best cultivated in a wire-basket, and suspended from the rafters of a moist stove. The flowers are very fragrant.

Descr. *Pseudobulbs* crowded, forming dense, spreading masses, small, the younger ones fusiform, the older ones more inclining to ovate. The former are clothed with two or more large, generally red, sheathing *scales*, within which is a much larger and longer (three to four inches long) sheathing, subcylin-

drical, inflated scale, tawny, and tinged with red. *Leaves* solitary, broad-lanceolate, rather obtuse, striated, tapering into a long *footstalk*, which is enclosed by the sheathing scale. *Peduncle* arising from the top of the pseudobulb, curved downwards, slender, filiform, sheathed below (as the petioles are), and bearing a graceful, pendent, elongated, linear-oblong *spike* of crowded, distichous, white, sessile *flowers*. In a young state these spikes almost resemble those of *Pholidota*. *Bracteas* lanceolate, convolute, white, at length tawny. *Sepals* and rather smaller *petals* uniform, spreading, oblong, acuminate. *Lip* small, projecting, and recurved; three-lobed, lateral lobes acute, curved forward, middle lobe rotundate: the disc of the lip has two oblong lobes or thick lamellæ. *Column* short, compressed, having on each side, near the base, a long spiniform tooth: the apex winged, bifid, and laciniated. *Anther-case* conico-cucullate, placed just above the small stigma.

Fig. 1. Front view of a flower. 2. Column. 3. Labellum:—*magnified*.

Tab. 4854.

CANNA Warszewiczii.

Warszewicz's Canna.

Nat. Ord. Cannaceæ.—Monandria Monogynia.

Gen. Char. Calyx triphyllus. *Corollæ limbus* exterior trifidus, interior bilabiatus, labio superiore bi-tripartito v. abortu nullo, inferiore diviso. *Filamentum* petaloideum, anthera marginali. *Ovarium* inferum, triloculare. *Ovula* in loculorum angulo centrali plurima, horizontalia, anatropa. *Stylus* petaloideus; *stigma* lineare, margini adnatum. *Capsula* membranacea, papilloso-muricata, triloculares, loculicido-trivalvis. *Semina* plurima, subglobosa, testa coriacea, dura. *Albumen* corneum. *Embryo* orthotropus, axilis, cylindricus, albuminis longitudine, extremitate radiculari albumen perforante, umbilicum attingente, cotyledonis apice subinflexo.—Herbæ *Americanæ, ut plurimum tropicæ, paucæ Asiaticæ, perennes, paludosæ*, caule *simplici*, foliis *longe petiolatis, late ovatis*, spica *terminali laxa*, floribus *bracteatis. Endl.*

Canna *Warszewiczii;* foliis ovatis margine coloratis, vaginis spathis bracteis calycibusque purpureis, corollæ petalis omnibus intense coccineis inferiore emarginato, capsulis lato-pyriformibus dense papilloso-muricatis atro-sanguineis.

Canna Warszewiczii. *Dietr. in Otto und Dietr. Allgem. Gartenz. Jahrg. XIX. p.* 290.

Canna sanguinea. *Hort. Germ.*

This fine *Canna* was introduced into German gardens, in 1849, by M. von Warszewicz, from Costa Rica; it is now very generally cultivated in England, and is well deserving of it,—the stem, but especially the peduncles, ovaries, calyx, and bracts, having a fine blood-red colour, and the flowers being of a bright scarlet. It belongs to that section of the genus characterized by a bifid upper lip of the corolla, including *C. discolor, C. occidentalis, C. compacta, C. carnea*, etc.; but it differs from its allies in several essential points.

Descr. The *root* is perennial. The *stem* (when the plant is well cultivated*) attains a height of three to three and a half

* In German gardens this *Canna* is planted during the summer in the open borders, where it succeeds extremely well, as is also the case with other Cannas.

feet, and is round, robust, dark blood-red, primrose, and (as is the whole plant) glabrous. The *leaves* are about one foot long, and in the widest part about six inches across; they are ovate or ovate-oblong, gradually tapering, and terminating in an almost threadlike apex; they are of a dark green, the midrib and veins below being more or less intensely red, as is also their margin. The *inflorescence* is more than half a foot long. The *corolla* is scarlet, externally occasionally with a bluish tinge. The *ovary* is nearly globose, obscurely tricorned, and thickly covered with little warts; at first of dark blood-colour and primrose, but, after the flowers have faded, becoming lighter, and finally assuming a beautiful ruby colour, the warts being then transparent, and when held before the light showing a fine red. The *stamen* is very narrow-linear, of a light brown, and of the same length as the style. The *fruit* is nearly globose or obovate-globose, as large as a good-sized cherry when perfectly ripe, quite black, and covered with dried-up warts. The *seeds* are globose, as large as peas, and jet black. *Seemann.*

Marantas, Musas, Begonias, Bambusas, etc. In England this mode of culture has not yet been tried, probably from the prevailing notion that the difference of temperature of the two countries, from May to October, is too great to allow the experiment to succeed. There is no harm in trying it, especially as the case is not quite a hopeless one. The Germans formerly never dreamed that they should one day behold broad-leaved Banana trees and Cannas in their gardens flourishing with tropical luxuriance. *Seem.*

Fig. 1. Flower from which the calyx is removed:—*magnified.* 2. Capsule. 3. Seed:—*natural size.*

W Fitch del et lith.

Tab. 4855.

BEGONIA UROPHYLLA.

Caudate-leaved Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *urophylla;* acaulis ramosa, foliis amplis lato-cordatis inciso-dentatis apice caudato-acuminatis, venis flabellatis subtus setosulis, petiolis setosis setis mollibus deflexis, pedunculis radicalibus glabris, paniculis amplis valde ramosis repetitim di-trichotomis, floribus dipetalis, masculis petalis obovatis planis patentibus, fœmineis petalis suborbicularibus valde concavis erecto-patentibus, fructu 3-alato, alis duabus brevibus, unica duplo majore rotundato-quadrangulari.

Begonia urophylla. *Hort. Belg.*

Under the above name we have received our present *Begonia* from the Belgian Gardens. It is certainly among the finest and handsomest of the genus; the leaves ample, and the flowers large and very numerous, in panicles, which are compoundly divided in a di- or trichotomous manner. We are scarcely in a condition, with our limited knowledge of the numerous species (now unfortunately, too, hybridized by cultivators), to say what are its nearest allies. Indeed, it is extremely different from any we are acquainted with. The long caudex of the large leaf is very peculiar. There are few species better deserving a place in a tropical stove. It flowers copiously in March.

Descr. Our *plant* is stemless: the *leafstalks* spring directly from the root, are succulent, terete, and sparsely beset with decurved subulate soft bristles or setæ. *Leaves* very large, a span and more long, broadly cordate, green, paler beneath, the margin inciso-dentate, the apex runs out into a long tail-like point. The veins commencing from a conspicuous circular disc, at the base of the leaf, in the sinus, diverge in a flabellate manner, and are beneath beset with soft, white, pellucid, chaffy hairs on many of the nerves. *Peduncles* radical, terete, glabrous and smooth, green, tinged with red, bearing a large, spreading, yet lax, di-trichotomously divided *panicle*, with two sorts of flowers;—

male, large, and *female* smaller ones. *Male flowers* of two spreading, opposite, plane, obovate, faintly striated, white *petals*, tinged with bluish. *Stamens* numerous, club-shaped, yellow. *Female flowers* not much more than one-fourth the size of the males. *Petals* two, erecto-patent, suborbicular, very concave. *Ovary* or *capsule* triangular, with a wing at each angle: *two* short and narrow; *one* much larger, and dilated so as to have a subquadrate form. *Style* short. *Stigma* twisted.

Fig. 1. Female flower:—*magnified*.

Tab. 4856.

EMBOTHRIUM coccineum.

Scarlet Embothrium.

Nat. Ord. Proteaceæ.—Tetrandria Monogynia.

Gen. Char. Perigonium irregulare, hinc longitudinaliter fissum, apice quadrifidum. *Stamina* 4, perigonii apicibus concavis immersa. *Glandula hypogyna* unica, semiannularis. *Ovarium* pedicellatum, uniloculare, multiovulatum. *Stylus* filiformis, persistens; *stigma* verticale, clavatum. *Folliculus* oblongus, unilocularis, polyspermus. *Semina* apice in alam arachnoideam producta, pellicula interposita distincta.—Frutices *v.* arbusculæ *glabræ in America antarctica provenientes;* ramulis *quandoque gemmarum squamis persistentibus obsitis*, foliis *sparsis integerrimis*, racemis *terminalibus corymbosis, paribus pedicellorum unibracteatis*, involucro communi *nullo*, floribus *coccineis glaberrimis. Endl.*

Embothrium *coccineum;* foliis ovali-oblongis obtusis mucronulatis subtus discoloribus, ramulis squamatis. *Br.*

Embothrium coccineum. *Forst. Gen. p.* 16. *tab.* 8. *litt. g.—m. Linn. Suppl. p.* 128. *Lam. Ill. t.* 55. *f.* 2. *Cavan. Icon. v.* 1. *t.* 65. *Roem. et Schult. v.* 3. *p.* 431. *Br. in Linn. Trans. v.* 10. *p.* 196. *Spreng. Syst. Veget. v.* 1. *p.* 483. *Hook. fil. Fl. Antarct. v.* 2. *p.* 342.

Abundant as are the *Proteaceæ* in the Southern Hemisphere, in Africa and Australia, they are comparatively of rare occurrence in the Indian Islands and in South America. The genus *Embothrium* however, as limited by Mr. Brown, the great authority in this Natural Family, is confined to the latter country, and chiefly to the very high southern latitudes; *E. lanceolatum* of Ruiz and Pavon being not found north of Concepcion, while our present beautiful species is chiefly confined to the Straits of Magellan and Tierra del Fuego, not however reaching to Cape Horn. It might be expected then, as it proves, to be quite hardy in this country, to which it was introduced by Messrs. Veitch, through their collector, Mr. William Lobb. Our flowering specimen here represented was sent from the Exeter Nursery in May, 1853. It is a handsome evergreen shrub, with racemes of the richest scarlet flowers.*

* Those who had the gratification of witnessing the Exhibition of Flowers at Gore House this day (May 16), cannot fail to have seen and admired, among the more powerful attractions of the place, the splendid *Orchideæ* from the Messrs. Veitch's Exotic Nurseries, Exeter and Chelsea, and the no less splendid *Embothrium coccineum.*

Descr. Shrub apparently of moderate height, two feet in the present instance: *branches* terete, brown, woody; the younger ones said to be clothed with scales. *Leaves* shortly petiolate, oblong-oval, approaching to elliptical, firm, coriaceous, two and a half to near three inches long, entire, glabrous, dark green above, pale beneath, penniveined, very obtuse at the apex and mucronate, tapering below. *Petioles* about half an inch long. *Racemes* numerous, terminal, sessile, many-flowered. *Rachis* green. *Pedicels* red, half an inch to an inch long, erecto-patent. *Flowers* bright scarlet; in bud nearly two inches long, tubular, curved upwards, the closed segments of the perianth forming a globose head, eventually separating one-third of the way down from the apex into four, spathulate, reflexed, and often spirally twisted *lobes*, in the concave apices of which the sessile oblong *anthers* are imbedded. *Ovary* elongated, cylindrical, shortly stipitate, bearing a prominent gland on the upper side of the stipes, tapering gradually into the red exserted *style*: *stigma* oblong, yellow, tipped with green.

Fig. 1. Flower. 2. Pistil:—*magnified.*

Tab. 4857.

TRICHOPILIA coccinea.

Red-flowered Trichopilia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala et *petala* æqualia, patentia, angusta. *Labellum* magnum, petaloideum, convolutum, cum columna parallelum, trilobum, lobo intermedio subbilobo planiusculo, intus nudum. *Columna* teres, clavata. *Clinandrium* cucullatum, trilobum, villoso-fimbriatum. *Anthera* unilocularis, compressa, antice convexa. *Pollinia* 2, postice sulcata, *caudiculæ* tenui cuneatæ adherentia: *glandula* minima.—Pseudobulbi *carnosi*, vaginis *maculatis supertecti*, *monophylli*, *coriacei*. Flores *solitarii*, *axillares*. *Lindl.*

Trichopilia *coccinea;* pseudobulbis angustis oblongis compressis sulcatis monophyllis, foliis lanceolatis planis basi subcordatis acuminatis recurvis, pedunculis plurifloris, petalis lineari-lanceolatis acuminatis semel tortis, labello quadrilobo lobis rotundatis convexis planis basi arcte convoluto, cuculli trilobi laciniis fimbriatis subæqualibus. *Lindl.*

Trichopilia coccinea. *Lindl. in Paxton's Fl. Gard. v.* 2. *t.* 54.

Trichopilia marginata. "*Henfr. Gard. Mag. of Bot. July* 1851, *with a figure.*"

A native of Central America, where it was discovered by Mr. Warszewicz, who sent it to England in 1849, under the name of *Trichopilia coccinea*, a name properly adopted by Dr. Lindley, though not till after it had been published by Mr. Henfrey under the name of *T. marginata*. The specimen here figured in April of the present year (1855) is from the collection of S. Rucker, Esq., Wandsworth, and we are informed by his skilful gardener, Mr. Junkermann, that it was presented to that gentleman by Mr. H. Gireoud, gardener to Charles Nauen, Esq., of Berlin;—equally derived from Mr. Warszewicz. It is a very handsome species, most so of any of the genus, and is described as sometimes having the entire flower of a rich deep carmine colour, whereas in our plant the outside of the flower is white, or nearly so;—the upper or inner side red-purple; the sepals margined with white. In Dr. Lindley's figure the upper side of the labellum has a clearly defined border of white, and the pedunceles

or scapes are single-flowered. Its nearest affinity is with *T. tortilis*; from which the last-mentioned author observes it differs "principally in its larger and rich carmine flowers, slightly twisted sepals and petals, and the equal size of the fringed lobes of the anther-hood."

Descr. *Pseudobulbs* clustered, oblong, compressed, smooth, dark green. *Leaves* solitary, from the apex of the pseudobulb, broad-lanceolate, coriaceous, suddenly acuminate; near the base often somewhat spreading, so as to be subauriculate. *Peduncle* from the base of the pseudobulb, about three-flowered. *Flowers* large, handsome, in our specimen white externally, reddish-purple within. *Petals* and *sepals* spreading, linear-lanceolate; *sepals* of the same shape, but slightly twisted, all margined with white above. *Lip* trumpet-shaped, the mouth oblong, large, spreading; the four lobes broad, rounded, waved. *Column* included within the convolute *claw* of the lip, white, terete. *Hood* of the *anther* three-lobed; *lobes* nearly equal in size, fringed.

Fig. 1. Column. 2. Pollen-masses:—*magnified*.

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Tab. 4858.

GENETYLLIS TULIPIFERA.

Tulip-bearing Genetyllis.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. Calyx tubulosus, 5-costatus, dimidiatus, inferne ovario adnatus, basi carnosus, superius in faucem productus, limbo obtuse 5-dentato; totus lævis, v. inferiore parte ovarium corticante rugulosus, vel rugis transverse parallelis in marginem liberum cartilagineum productis pluriannulatus. *Corolla* scariosa vel membranacea, limbo calycis adnata; *petala* 5, concava vel naviculari-carinata, in acumen obtusum extenuata, conniventia. *Andronitis* ultra calycis limbum brevissimo, brevi, v. longiori spatio monadelpha, inferius inde confluens in laminam parieti faucis adnatam. *Staminodia* 10, staminibus totidem rite alterna, variæ configurationis dentiformia, subulata, liguliformia, petaloidea, præfloratione erecta. *Filamenta* staminodiis subæqualia v. longiora, filiformia, præfloratione introflexa, antheris duplice serie, altiori et demissiori, fauci applicatis. *Antheræ* globosæ, connectivi simplicis fronti insertæ, bilocellatæ, locellis subconfluentibus, virgineis leviter constrictis, poro postico dehiscentibus. *Ovarium* calyci omnino immersum, vertice truncatum laminaque epigyna indutum. *Ovula* gemina paucave in placenta basifixa centrali erecta, anatropa. *Stylus* exsertus, infra stigma barbatus vel glaber. *Fructus*. . . .—Flores *in apicibus ramulorum pauci vel numerosi capitato-congesti, in axis dilatati receptaculiformis areolis sessiles, v. pedicellati*, bracteis *stipati internis hebetatis, extimis vero sæpe auctis coloratisque involucrum capituli exhibentibus.* Bracteolæ *binæ, liberæ, juxta calycis basin oppositæ, sessiles, membranaceæ, naviculares, carinatæ, floris primordium amplectentes, dein divergentes, sub anthesi deciduæ. Schauer.*

Genetyllis *tulipifera;* foliis plerisque oppositis subsessilibus patentibus punctatis oblongo-ellipticis obtusis membranaceo-marginatis serrulatis, capitulis nutantibus, involucris amplis campanuliformibus albis sanguineo pulcherrime pictis, foliolis latissimis, calycis tubo inferno 10-sulcato sulcis transverse rugosis, staminodiis clavatis apice coloratis parvis.

Genetyllis tulipifera, *Hort.*

Hedarome tulipiferum. *Lindl. in Gard. Chron.* 1854, *p.* 323.

During the distant excursions so frequently made by the venerable Drummond in Western Australia to the interior of the Swan River Settlement, he spoke with rapture of two species of *Genetyllis*, as among the most interesting of his discoveries; and when his specimens were distributed to the European subscri-

bers, they were found to bear him out in his eulogies; and these have both now happily been raised from seeds in our gardens; so that in April of the present year we had the pleasure to receive beautiful samples of the two, flowering in great perfection, from the nursery of Messrs. Garaway, Mayes, and Co., of the Bristol Nursery. The same were exhibited at the summer exhibitions of the present year, and have attracted much attention. Both are figured in the present number. That now before us, *G. tulipifera*, though only two feet ten inches high, had from 150 to 200 heads of flowers upon it. Each little branch is terminated with a drooping richly coloured involucre, resembling a gay tulip, and which many, unacquainted with the family to which the plant belongs, take for a large corolla: whereas they are but floral leaves, sheltering and completely concealing from view the real flowers. It is a hardy greenhouse plant.

Descr. *Shrub* between two and three feet high, firm, erect, much branched; branches nearly erect, angled, pale brown. *Leaves* mostly opposite, nearly sessile, perennial, patent, between elliptical and oblong, dark green above and punctated, pale beneath, the *margin* cartilaginous or submembranaceous, pellucid, minutely serrulate. *Heads* of several *flowers* terminating the numerous branches, and with their large and highly coloured *involucre* drooping. The upper leaves are also gradually larger, broader, and more or less coloured; those, constituting the involucre, with the interior or uppermost ones white, more or less streaked or blotched with deep rose or blood colour, and so arranged as to resemble a large bell-shaped, polypetalous corolla. *Flowers* small, few in number, collected into a head at the base of the involucre, each subtended by two concave and subcarinate *bracteoles*. *Calyx-tube* subturbinate, below ten-furrowed, the furrows transversely wrinkled: *limb* of five, small, obtuse teeth. *Corolla* of five, ovate, obtuse *petals*. *Stamens* arising from the edge of a fleshy *annulus* or *disc* at the mouth of the calyx; ten perfect, short, with globose *anthers*, and ten (outer series) are minute, clavate *staminodia*. *Style* thrice as long as the flower, thick, subulate, barbate below the acute *stigma*.

Fig. 1. Leaf. 2. Flower. 3, 4. Bracteoles. 5. Vertical section of calyx. 6. Stamen and staminodium:—*magnified*.

RHODODENDRON RETUSUM.

Blunt-leaved Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *retusum*; fructicosum, ramulis exasperatis, foliis obovato-oblongis coriaceis obtusis retusisve subtus pallidis squamulosis marginibus recurvis, floribus umbellis pedunculisque hirsutis, calycibus parvis lobis 5 brevibus unico longiore pedunculisque hirsutis, corollis infundibuliformi-tubulosis coccineis basi ventricosis, staminibus subexsertis, ovario elliptico squamuloso.

Rhododendron retusum. *Bennet in Fl. Jav. p.* 88. *t.* 20. *De Cand. Prodr. v.* 7. *p.* 724.

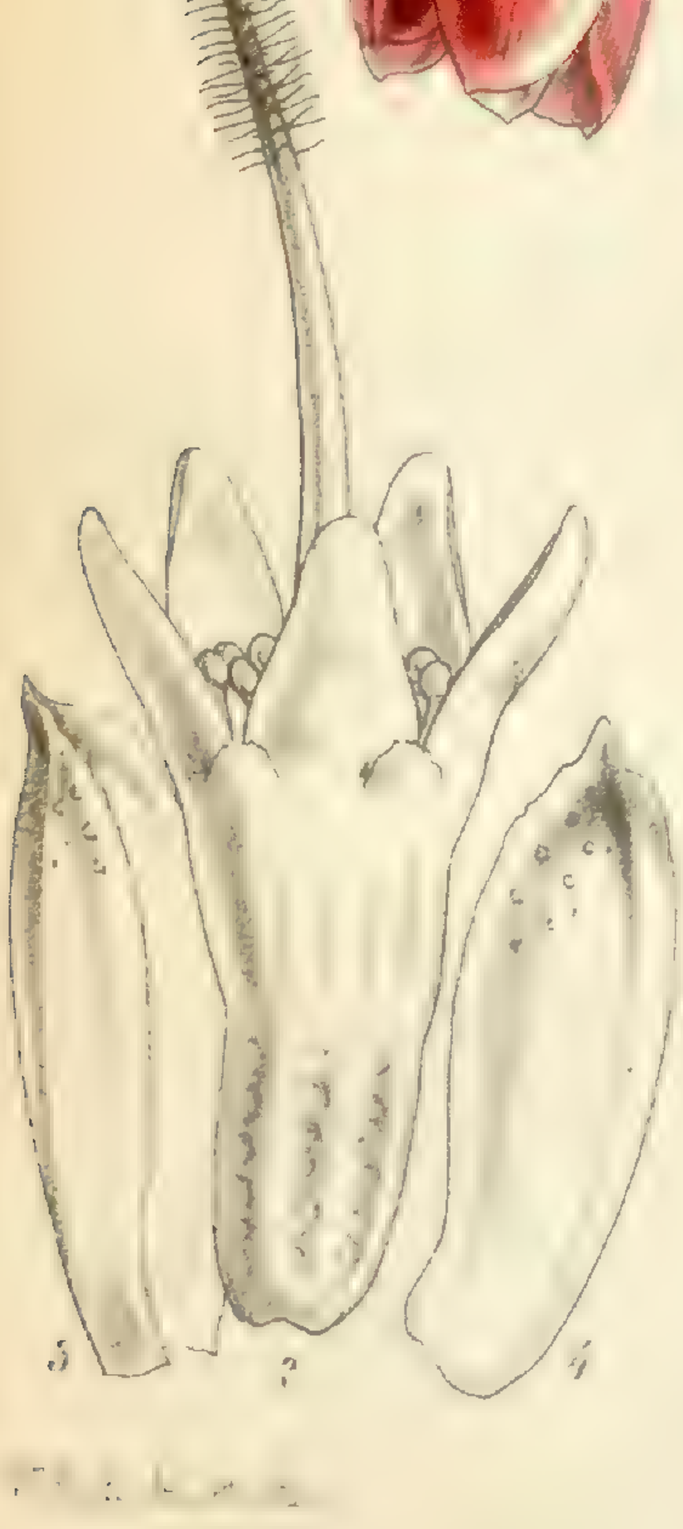
Vireya retusa. *Blum. Bijdr. p.* 856.

A native of high mountains of Western Java, where it was first found by Blume; and Dr. Horsfield detected it in the island of Sumatra, in 1818, on a journey from Padang to Menangcabo, in shaded situations about 3000 feet above the ocean. It may be considered then a greenhouse plant, and should be treated as such. Messrs. Rollisons, of Tooting Nursery, have raised it from seeds sent by their collector, Mr. Henschell, from Java, and we are indebted to them for the opportunity of figuring it. It is truly a lovely plant, of the group of *R. ferrugineum* and *hirsutum* among European species, and *R. anthopogon*, *lepidotum*, etc., among Indian species; but in the size and colour of its flowers and foliage, handsomer than any of them. The flowers approach nearer to scarlet than any other species of the genus. It blossomed with Messrs. Rollisons in May.

Descr. A *shrub* a foot to two feet high; *branches* woody, brown in age, rough with minute raised points; less so in the cultivated than in the wild state. *Leaves* two to two and a half inches long, almost sessile, oblong or elliptical-obovate, evergreen, coriaceous, spreading, glabrous, the margins recurved, the apex

very obtuse or often retuse, dark green above, the younger ones paler, the old ones a little inclined to ferruginous beneath, and there furfuraceous with numerous minute scales. *Umbels* terminal, of six to eight or nine flowers. *Peduncles* about two-thirds of an inch long, red, hairy. *Flowers* moderately drooping. *Calyx* minute, yellow-green, ciliated and squamulose, five-toothed; teeth very short and acute, but one longer than the rest. *Corolla* an inch and a quarter or an inch and a half long, rather bright scarlet, tubuloso-infundibuliform, the base ventricose, the limb short and moderately spreading, of five rounded lobes. *Stamens* a little exserted, ten; *filaments* glabrous, and slightly thickened below; *anthers* tawny. *Ovary* oblong, five-angled, squamulose, inserted on a lobed glandular *disc*. *Style* filiform, rather shorter than the stamens, thickened below the stigma.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Section of ovary :—*magnified*.



Vincent Brooks Imp.

Tab. 4860.

GENETYLLIS MACROSTEGIA.

Large-involucred Genetyllis.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4858.)

Genetyllis *macrostegia;* foliis plerisque oppositis erecto-patentibus subsessilibus lineari-subspathulatis anguste serrulato-cartilagineo-marginatis supra punctatis, capitulis nutantibus, involucris amplis subcylindraceo-campanuliformibus unicoloribus rubris, foliolis ellipticis, calycis tubo inferne 5-sulcatis sulcis transverse rugosis, staminodiis parvis clavatis apice coloratis acutis.

Genetyllis macrostegia. *Turcz. in Bull. de la Soc. Imp. Sc. Nat. de Moscou, v.* 22. *Part II. p.* 17. *Walpers, Ann. Bot. v.* 2. *p.* 616.

We have alluded to this *Genetyllis*, under our Tab. 4858, as one of the two beautiful species of the genus the discovery of which in West Australia had given such pleasure to Mr. Drummond, and as having been received by us from the Bristol Nursery, Messrs. Garaway, Mayes, and Co. It is scarcely less beautiful, and certainly not less curious, than the *G. tulipifera*, figured at the Tab. just mentioned. It is a smaller plant; the leaves are much narrower, more sparse; the coloured involucres are perhaps more numerous, but smaller, not so spreading at the mouth, and the foliola are narrower, and all of a uniform brick-red colour. In writing on the *G. tulipifera*, Dr. Lindley says, "that plant should be compared with the *G. macrostegia* of Turczaninoff." We think, however, our friend has done right in not adducing the latter as a synonym to that species. The present one accords so much better with the short description of *G. macrostegia*, that I think there can be little doubt that this is the species that was in view, and that *G. tulipifera* was quite unknown to him. It proves to be as hardy as the others; and Messrs. Garaway and Mayes observe that it requires plenty of light and air, a compost of good peat and sand, with a little charcoal intermixed, and a moderate supply of water, especially in winter. It is the case with this and *G. tulipifera*, that the

more hardy its treatment the brighter the colour of the bracts. Both have the merit of continuing in flower three or four months at a time. Their involucres are of a dry, membranaceous character, and would probably retain their colour and form for a long time in a dried state, like the Xeranthemums and other so-called *Everlastings*.

Descr. The figure will show, almost better than words can do, how this plant differs from *G. tulipifera*. It is smaller, slenderer, and more twiggy. The *leaves* rather longer, but much narrower, and subspathulate. The *bracts* or *folioles* of the *involucre* are narrower and less convolute, and less retuse at the apex. The flowers are very similar in structure; but we observe only five furrows in the lower part of the tube.

Fig. 1. Leaf. 2. Young flower. 3, 4. Bracteoles. 5. Vertical section of a calyx. 6. Anther. 7. Stamen and staminodium :—*magnified*.

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Hunt. del et lith.

Hanhart Imp.

Tab. 4861.

DIPLOTHEMIUM littorale.

Sea-shore Diplothemium.

Nat. Ord. Palmaceæ.—Monœcia Polyandria.

Gen. Char. Flores monoici in eodem spadice, quincunciatim dispositi, *masculi* in parte inferiore verrucis callosis hemisphæricis (pedicellis, *Mart.*) super fœmineos impositi, in superiore solitarii, sessiles, bracteis flores masculos geminos vel intermedio fœmineo sociatos cingentibus, favoso-connatis. *Spatha* duplex: *exterior* brevior, apice aperta, membranacea vel coriacea; *interior* clavata vel cylindracea, mucronata, ventre demum fissa, dorso sulcata, lignosa. Fl. masc. subcarnoso-coriacei. *Calyx* uterque 3-sepalis; *sepalis* exterioribus anguste lanceolatis, carinatis, ima basi connatis, erectis; interioribus ovatis, subcarinatis, erectis vel conniventibus. *Stamina* 6–12 vel indefinita (14–20, 24 et 60) e toro basilari; *filamenta* subulata, inæquilonga; *antheræ* sagittatæ vel sublineares, erectæ. *Ovarii rudimentum* minutissimum vel nullum. Fl. fœm. coriacei, striati, ovato-globosi. *Calyx* uterque 3-sepalus; sepalis ovatis, carinatis; exterioribus imbricato-convolutis; interioribus vix minoribus, integerrimis vel repando-dentatis. *Ovarium* globoso-trigonum, *loculis* 2 rudimentariis 1-loculare. *Stigmata* 3, sessilia, triquetra, pyramidato-conniventia, demum subpatentia. *Drupa* ovata vel obovata, stigmatum residuis umbonata, 1-sperma, cortice fibroso; *putamine* lapideo, basi 3-poroso. *Albumen* cartilagineum, solidum. *Embryo* intra porum basilaris.—Palmæ *in maritimis sabulosis vel in campis siccis herbidis sparse et gregarie crescentes, plerumque acaules, rarius caudicem crassiusculum inermem annulatum elevantes.* Frondes *pinnatæ, breviter petiolatæ,* pinnis *angustis, firmis, rigide patentibus vel crispis, interrupte aggregatis, subtus argenteis vel glauco-viridibus;* petiolorum *basi vaginante, fibroso-panniformi, tandem lacera.* Spadices *simplices, antice dense florigeri.* Spatha *exterior intra frondium bases latens.* Flores *majusculi, ochroleuci.* Drupæ *flavescentes; carne fibrosa, eduli. Mart.*

Diplothemium *littorale;* acaule, frondibus spissis rectiusculis, pinnis rigidis subtus glaucescentibus, floribus masculis 10–12-andris, drupis obovatis subangulatis. *Mart.*

Diplothemium littorale. *Mart. Palm.* 110. *t.* 76. *f.* 5 *only*. *Kth. Enum. Plant. v.* 3. *p.* 290.

Cocos arenarius. *Gomez, Act. Olysip.* 1812. *p.* 61.

The Royal Gardens of Kew are indebted to the Jardin des Plantes of Paris for the possession of this small but graceful Palm. It threw up its spatha in the spring of 1855, which soon burst, and exposed to view the spike, or spadix, of dull yellow flowers. All the three described species of this genus are con-

sidered to be peculiar to Brazil. Of the present one a solitary habitat is given by Martius, namely, "the sandy, maritime shores of St. Sebastian."

Descr. Stemless. A short, horizontal caudex appears above ground, annulated or scarred transversely with the marks of former fronds, rooting below. *Fronds* three to four feet long, erecto-patent, rigid. *Petiole* more than half as long as the foliaceous portion, angular, below connected by transverse fibrous web. *Pinnæ* narrow, linear-lanceolate, solitary, or two to four proceeding from the same point, all very much acuminated. *Peduncle* shorter than the petioles, compressed. *Spatha* four to five inches long, boat-shaped, acuminate; interior sheathing the peduncle within. *Flowers* forming a close *spike* on the spadix, of a pale, rather dingy yellow colour. In our specimen they seemed to be all male flowers, each consisting of a monophyllous *calyx*, with three deep ovate acuminate lobes; *corolla* of the same shape and colour. *Stamens* twelve to fourteen or fifteen. *Filaments* subulate, short. *Anther* oblong, yellow; no trace of pistil.

Fig. 1. Flower. 2. Stamens:—*magnified.*

Tab. 4862.

STREPTOCARPUS Gardeni.

Captain Garden's Streptocarpus.

Nat. Ord. Didymocarpeæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4850.)

Streptocarpus *Gardeni;* foliis omnibus radicalibus humifusis oblongo-ovatis basi cordatis pubescenti-velutinis crispatis rugosis crenatis, scapis plurimis bifloris, floribus nutantibus, segmentis calycinis apice patentibus, corollæ tubo elongato curvato, limbo bilabiato, labio inferiore porrecto, stigmate distincte umbilicato.

We had the satisfaction, at our Tab. 4850, of figuring a new *Streptocarpus*, *S. polyanthus*, from Natal; and we have now the opportunity of representing another new species of this handsome genus from the same country, and derived through the same gentleman as sent us that, viz. our obliging friend Captain Garden. The affinity of the present, it will be at once seen, is with the well-known *S. Rexii;* but it is nevertheless quite distinct, both in foliage and in flowers. The leaves are longer and handsomer, more ovate in form, more rugose and more wrinkled, and cordate at the base. The scapes are almost invariably two-flowered: the calyx has the segments patent at their apices. The corolla, though of nearly the same size, is different in form and in colour; uniform pale-blue in *S. Rexii*, here the tube is green or greenish-white, and the limb lilac; moreover the tube is much broader (not suddenly contracted in the lower half), slightly curved downwards; and the limb, instead of spreading into five nearly equally spreading lobes, is more decidedly two-lipped, the two lobes of the upper lip moderately patent, and the three composing the lower lip porrected or standing forward: the lines on the lower lip, instead of being blue and continuous, are sanguineous, and interrupted in dots or short streaks: the stigma too is different. The plant flowers copiously in a warm greenhouse during the summer months. It is not a little remarkable that

both this and our *S. polyanthus* came from seeds accidentally contained in the Natal earth brought with other plants.

Descr. *Leaves* all radical and pressed close to the earth, ovato-oblong, cordate at the base, on rather short *petioles*, crenated, downy, reticulate-rugose, crisped, especially at the margin, paler and almost tomentose beneath. *Scapes* several from the same plant, erect, downy, purplish below, the rest green, bearing two flowers with a bractea at the forking of the pedicels. *Calyx* quinquepartite; *segments* linear, below erect, the apices patent. *Corolla* two and a quarter inches long; *tube* moderately curved downwards, rather broad, gradually enlarging upwards, whitish or pale-green, decidedly green below, especially towards the throat; *limb* pale lilac, two-lipped; *upper lip* of two oval lobes, moderately spreading back, lower of three such lobes standing forward, and streaked in the inside with broken lines or dots of a sanguineous colour. *Stamens* two perfect; three minute abortive ones are represented by capitate glands. *Ovary* long, cylindrical, downy, arising from an hypogynous cup, tapering into a short narrow *style*. *Stigma* of two very short fleshy lips, umbilicate in the centre.

Fig. 1. Pistil:—*magnified.*

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Brooks

Tab. 4863.

RHODODENDRON Californicum.

Californian Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *Californicum;* foliis subobovato-ellipticis coriaceis acutis glabris brevi-petiolatis concoloribus subtus pallidis, umbella terminali multiflora, calycis parvi subpilosi laciniis acutis unica longiore, corolla lato-campanulata roseo-variegata lobis undulatis intus (tribus superioribus) flavo-maculatis, staminibus 10 corolla brevioribus, filamentis basi pubescentibus, ovario elliptico appresse piloso-sericeo.

Rhododendron Californicum. *Hook. MS. in Herb.*

We have possessed this plant in our Herbarium from the mountains of California, and have recognized it as a new species ever since Mr. Lobb's first mission to that region; and on a visit, this spring, to Mr. Veitch's Exotic Nursery, King's-road, Chelsea, we were much struck with the great beauty of living flowering plants of the same, exhibiting a richness of colour in the varied pale and very deep rose tints of the numerous corollas, of which the large heads are beautifully nestled in an involucre, as it were, formed by the handsome green leaves constituting a dark background to the flowers. Some of these plants were exhibited, with many other rarities from the same Nursery, at the memorable Flower-show of the Crystal Palace at Sydenham of this year (June, 1855), and could not fail to attract attention, though surrounded by so many other floral beauties: they were noticed the following week in the 'Gardeners' Chronicle,' among the new plants* exhibited by Mr. Veitch, as a "delicate pink kind of *Rhododendron*, very different in appearance from those of the eastern mountains of America, or from any we have at present in cultivation." It seems to be a most

* One of these novelties was another species of *Rhododendron* from Borneo, with large *golden*-coloured flowers, *R. Brookeanum*, which we trust soon to have the opportunity of figuring and describing.

ready flowerer, the plants, with three or four of these splendid heads, being little more than a foot high. The species has stood the winter well at Exeter.

Descr. Apparently a small or moderately sized *shrub*, with the habit of small plants of *R. maximum*, or still more of *R. Catawbiense*, having stout *branches*, of which the younger ones are green and subherbaceous. *Leaves* on short *petioles*, three to four inches long, elliptical, obovate, acute, often almost mucronate at the point, tapering at the base, except in the upper leaves, glabrous and naked on both sides, paler coloured on the underside. Beneath the flowers the leaves are generally more crowded, so as to form a sort of involucre to the large umbellate head. *Calyx* small, five-lobed; the lobes form a broad base, almost subulate, slightly hairy. *Corolla*, in bud rich carmine, when fully expanded broad campanulate; tube short, suddenly spreading into five, broad, oval, crisped lobes; the ground colour is then pale pink, deeper towards the apex of the lobes, and streaked with darker rose; three upper lobes with small yellow spots within. *Stamens* 10, unequal, shorter than the corolla; *filaments* deep rose, thickened and downy below. *Anthers* deep pink. *Ovary* elliptical, with five longitudinal furrows, clothed with long, appressed, silky hairs, five-celled. *Style* rather larger than the stamens, glabrous. *Stigma* with five very minute points.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Transverse section of the ovary.

Fitch del. et lith.

Vincent Brooks Imp

Tab. 4864.

AKEBIA QUINATA.

Five-leaved Akebia.

Nat. Ord. Lardizabalaceæ.—Monœcia Hexandria.

Gen. Char. Masc. *Calyx* 3-phyllus, foliolis ovato-lanceolatis concavis subæqualibus, in æstivatione subvalvatis. *Petala* 0. *Stamina* 6, biserialia, subæqualia, libera; filamentis cylindraceis primo erectis dein incurvatis; antheris muticis. *Ovariorum* rudimenta 6. Fœm. *Calyx* foliolis subrotundis concavis. *Stamina* 6–9, nana, abortiva. *Ovaria* 3–9, tunc ordine ternario disposita, distincta, oblongo-cylindracea, in stylum brevem stigmate peltato terminatum attenuata, ovulis parieti foveolato v. papilloso affixis, primo orthotropis serius anatropis?—Frutices Japonici *scandentes*, foliis *peltatim digitatis*, 3–5-*foliolatis*, foliolis *apiculatis integerrimis v. repando-dentatis, sublobatisve*. Racemi *axillares*, pedunculis *androgynis, ima basi squamatis, pauciflоris*; floribus fœmineis *inferioribus longius pedicellatis. Decaisne.*

Akebia *quinata;* foliolis ternis sæpius quinis ovatis vel obovatis integris obtusis v. emarginatis mucronato-setaceis. *Dcne.*

Akebia quinata. *Decaisne, Mém. sur les Lardizab. p.* 195. *Lindl. Bot. Reg.* 1847, *t.* 28.

Rajania quinata. *Thunb. Jap. p.* 148.

Our only wild specimens of this plant were collected by Fortune in China, and are the A. 31 of his Herbarium: it appears however to be a native of Japan, and is well figured and described in the 'Flora Japonica' of Siebold and Zuccarini. The plants represented, and which flowered at Kew, were received from Mr. Lowe, of Clapton Nursery, and were originally introduced into Europe by Siebold.

Descr. A slender, scandent, evergreen shrub, with terete, flexuose stems, everywhere quite glabrous. *Leaves* alternate, on slender petioles, usually quinate; leaflets articulate with the petiole, petiolulate, obovate, emarginate, or obcordate, quite entire, coriaceous, glaucous beneath. *Racemes* axillary and from reduced lateral branches, peduncled, their branches with minute bracteæ at the axils, often corymbose. *Flowers* pedicelled, unisexual, slightly fragrant. The males smaller, terminal on the

raceme, their sepals oblong or elliptical, reflexed. *Stamens* six, in two series; *filaments* very short; *anthers* oblong, blunt. Female flowers two to five on each raceme, on longer pedicels than the males. *Sepals* three, broadly elliptical, concave, coriaceous, subacute. *Ovaries* three to five in our specimens, cylindrical, with blunt, sessile, discoid stigmata; imperfect stamina very minute, sessile.

Fig. 1. Female, and 2. Male flowers:—*both magnified.*

Tab. 4865.

NICOTIANA FRAGRANS.

Sweet-scented Tobacco.

Nat. Ord. Solanaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubuloso-campanulatus, semiquinquefidus. *Corolla* infundibuliformis vel hypocraterimorpha, limbo plicato-quinquelobo, lobis per æstivationem plicatis et conniventi-contortis. *Stamina* 5, corollæ tubo inserta, inclusa, sæpe subæquilonga, nonnunquam inæqualia; *antheræ* longitudinaliter dehiscentes, brevissime ovatæ vel globosæ; *pollen* oblongum, longitudinaliter trisulcatum. *Ovarium* biloculare, placentis linea dorsali dissepimento adnatis, multiovulatis, nectario crasso annulari obsolete lobato basi circumdatum. *Stylus* simplex. *Stigma* capitatum, patellæforme, intus glandulis 2 magnis instructum. *Capsula* calyce persistente tecta, bilocularis, apice septicido-bivalvis, vel quadri-multivalvis, valvis demum bifidis, placentas discretas retinentibus. *Semina* plurima, minima, oblonga, subreniformia, rugosa. *Embryo* in axi albuminis carnosi, leviter arcuatus.—Herbæ, *interdum suffrutescentes, sæpissime glutinoso-pilosæ, in America tropica copiosæ, partim in aliis terris* (4) *crescentes;* foliis *alternis, integerrimis;* floribus *terminalibus, racemosis aut paniculatis, albidis, virescentibus, v. purpurascentibus,* pedicellis *axillaribus, calyces subæquantibus. De Cand.*

Nicotiana *fragrans;* subglutinosa, ubique pilis brevibus crispulis pubescente-sericea, foliis crassis subcarnosis inferioribus præcipue radicalibus obovato-spathulatis, caulinis paucis lineari-spathulatis, panicula terminali ampla multiflora, floribus in ramis subglomeratis nutantibus, calycibus inflatis laciniis inæqualibus, corollæ (albæ) tubo longissimo cylindraceo ore paululum dilatato, limbo glabro 5–6-lobo lobis rotundatis patentibus dorso carinatis, staminibus 5–6, filamento unico breviore.

A very fine species of Tobacco, discovered during Capt. Denham's surveying voyage by Messrs. Macgillivray and Milne in rocks and waste places on the sea-shore in the Isle of Pines; remarkable for the firm, thick, fleshy character of the foliage, and which becomes most beautifully satiny in the dried state, for the great size it attains in a state of cultivation, and for the delicious fragrance of the large white blossoms. It evidently belongs to the same section with *N. undulata*, Vent. et Br. (*N. suaveolens*, Lehm.); but cannot be the same, if Ventenat's figure (Hort. Malmais. t. 10) be correct. It is a plant of easy cultivation in

a cool greenhouse, and deserves a place in every collection. It continues long in flower in the summer months.

Descr. Herbaceous. In cultivation attaining a height of three to four feet. *Root-leaves* large, broad-obovate, spathulate; cauline ones few, distant, linear-spathulate, all of them thick and fleshy, firm, and, as well as the entire plant, except the limb of the corolla, clothed with short close-set hairs, which in a dry state give them a silky or satiny appearance. *Panicle* large, terminal, the branches bearing glomerated racemes of large, terminal, pendent, very fragrant *flowers*. *Bracteas* small, appressed. *Pedicels* short, decurved. *Calyx* ovate, inflated, five- or six-lobed; *lobes* erect, appressed, unequal, sublanceolate, obtuse. *Corolla* with the tube very long, cylindrical, pale-green, almost white, slightly enlarged at the mouth. *Limb* broad, spreading, of five or six broad, somewhat waved, rounded lobes, carinated at the back. *Stamens* five or six, adnate for nearly the whole length of the tube, and reaching to the mouth; one shorter than the rest and more free. *Ovary* ovate. *Style* as long as the corolline tube. *Stigma* a dark green disc, depressed in the centre.

Fig. 1. Pistil. 2. Transverse section of ovary:—*magnified*.

Tab. 4866.

DRYMONIA villosa.

Shaggy Drymonia.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx liber, obliquus, 5-phyllus, sepalis imbricatis. *Corolla* oblique campanulato-subringens, basi postice gibba, fauce patula, labio superiore bilobo, inferiore trilobo. *Stamina* 4, didynama, *antheris* inter se liberis; rudimentum quinti nullum. *Stigma* bilobum. *Annulus* hypogynus et glandula postica. *Capsula* baccans, ovata, coriacea, 1-locularis, bivalvis, *placentis* 2 parietalibus bilamellatis. *Semina* numerosa, fusiformia.—Frutices *Australi-Americani scandentes, hinc inde radicantes, aut humifusi.* Caules *teretiusculi, epidermide nitida.* Folia *opposita, petiolata, serrata, pubescentia, crassiuscula.* Pedicelli *axillares, solitarii, uniflori, breviusculi, petiolo subæquales, ebracteati.* Corollæ *amplæ, flavidæ aut albæ, sæpe pictæ. De Cand.*

Drymonia *villosa;* villosissimo-lanata, foliis ovatis reticulatim venosis rugosis acutis vel acuminatis serratis subtus venis valde elevatis, floribus axillaribus subternis brevi-pedicellatis pseudo-verticillatis, calycis superne gibbosi laciniis acuminatissimis sursum inclinatis, corollæ villosæ albæ tubo curvato compresso intus purpureo-lineato limbo bilabiato 5-lobo lobis rotundatis obtusis, stylo staminibus multo breviore.

Drymonia villosa. *Hort.*

Received from Mr. Lowe, of the Clapton Nursery, under the name* we have here adopted, but where described, if described at all, we are ignorant; it is reported to have been introduced by one of Mr. Van Houtte's collectors from Surinam. It appears a very distinct and handsome species, remarkable for its densely villous and woolly clothing. It flourishes in a moist stove, and flowers in May and June.

Descr. Subherbaceous, a foot or a foot and a half high, much branched from below; *branches* erect, obtusely tetragonal, thickly hairy and woolly. *Leaves* opposite, petioled, ovate, acute or acuminate, coarsely serrated, villous with spreading hair, strongly

* This name also appears in the catalogue of plants of the Royal Horticultural Society of Belgium.

reticulated and rugose, the nerves prominent beneath and then tomentose. *Petioles* an inch or more long, thick, woolly, and villous. *Flowers* axillary, generally ternate and spreading, so as to form pseudo-verticils. *Pedicels* short, single-flowered. *Calyx* gibbose at the base, above deeply cut into five, large, much acuminated segments, inclining upwards, about one-third as long as the tube of the corolla, very villous. *Corolla* villous externally; the tube gibbous at the base above, curved, compressed, the mouth spreading, within on the lower side marked with purple lines; *limb* two-lipped, upper of two, lower of three, spreading, rounded lobes. *Stamens* included, four, didynamous. *Anthers* nearly globose, approximate in pairs. *Ovary* ovate, villous, with a large gland at the back. *Style* much shorter than the stamens. *Stigma* obtuse.

Fig. 1. Base of the tube of the corolla, with stamens and pistil. 2. Pistil and gland.

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Fitch del et lith

Vincent Brooks Imp

Tab. 4867.

STYLOPHORUM DIPHYLLUM.

Two-leaved Stylophorum.

Nat. Ord. Papaveraceæ.—Polyandria Monogynia.

Gen. Char. Calyx diphyllus, foliolis pilosis, æstivatione valvatis, caducis. *Corollæ* petala 4, hypogyna, obovata, decidua. *Stamina* plurima, hypogyna: *filamenta* filiformia; *antheræ* terminales, extrorsæ, biloculares, loculis longitudinaliter dehiscentibus. *Ovarium* oblongum, uniloculare. *Ovula* juxta placentas intervalvulares, 3–4, plurima, anatropa. *Stylus* terminalis, columnaris; *stigma* capitatum, tri-quadrilobum. *Capsula* elliptica, setosa, unilocularis, apice valvis 3–4 incompletis revolutis inter placentas filiformes persistentes dehiscens. *Semina* plurima, scrobiculato-punctata, *strophiolo* umbilicali cristæformi.—Herbæ *boreali-Americanæ*, *perennes*, *succo flavo repletæ*, foliis *paucis v. geminis*, *summis oppositis*, *pinnatifidis*, floribus *terminalibus*, *subcorymbosis*, *luteis*. *Endl.*

Stylophorum *diphyllum*.

Stylophorum diphyllum, *Nuttall, Gen. v. 2. p. 7. Gray, Gen. Plants U.S. t. 48. Botany of the Northern United States, p. 27.*

Stylophorum petiolatum. *Nuttall.*

Stylophorum Ohioense. *Spreng. Syst. v. 2. p. 570.*

Meconopsis diphylla. *DC. Syst. v. 2. p. 88. Prodr. v. 1. p. 121. Torrey et Gray, Fl. N. Am. v. 1. p. 61.*

Meconopsis petiolata. *DC. l. c.*

Chelidonium diphyllum. *Michx. Fl. v. 1. p. 309.*

A native of woods in the Western United States, whence all our specimens are much larger than the cultivated ones, with pinnatisect or bipinnatifid leaves and axillary flowers, from what appear as involucral leaves in our specimen, becoming large and bearing leaf-buds with flowers in their axil. The plant figured was raised from seed sent by our esteemed friend Dr. Asa Gray, Professor of Botany in Cambridge University.

Descr. *Plants* six inches to a foot high, of rather a pale green colour and succulent texture, resembling *Meconopsis Cambrica*, the petioles, stems, and peduncles loosely covered with spreading setæ. *Radical leaves* broadly oblong or ovate, blunt, pinnatifidly lobed, cordate at the base; the segments lobed and crenate, glaucous below. *Cauline leaves* generally two, opposite, and

forming an involucre, shortly petiolate with a reduced stipule-like leaf on each side of the stem between the bases of the petioles, their blade sometimes pinnatisect. *Flowers* solitary, pale yellow, inclined. *Sepals* hairy. *Stamens* numerous. *Anthers* oblong. *Ovary* strigose, with a straight columnar style, and truncate, somewhat clavate, four-lobed stigma. *Capsule* elliptical, splitting to the base into four valves, by which character the genus is best distinguished from *Meconopsis*.

Fig. 1, Stamen. 2. Ovary. 3. Transverse section of ovary.—*magnified*.

TAB. 4868.

THERMOPSIS BARBATA.

Shaggy Thermopsis.

Nat. Ord. LEGUMINOSÆ.—DECANDRIA MONOGYNIA.

Gen. Char. Calyx oblongus v. campanulatus, apice quinquefidus, subbilabiatus. *Corollæ* papilionaceæ vexillum breviter unguiculatum, late orbiculatum, apice emarginatum, lateribus reflexum, alas oblongas subæquans; *carinæ* subrectæ obtusæ petala dorso connata. *Stamina* 10, libera. *Ovarium* subsessile, pluriovulatum. *Stylus* subincurvus, basi vix dilatatus; *stigma* terminale, parvum. *Legumen* compressum, oblongo-lineare v. falcatum.—Herbæ *perennes, sericeo-villosæ, in Asia et America boreali indigenæ;* foliis *palmatim trifoliolatis, superioribus nonnunquam simplicibus*, stipulis *ovato-lanceolatis, distinctis, sæpius foliaceis*, racemis *terminalibus*, floribus *pedicellatis, geminis v. verticillatis, ebracteatis, flavis. Endl.*

THERMOPSIS *barbata;* sericeo-tomentosa, pilis longis hirta, foliis 1–3-foliolatis, foliolis oblongis stipulisque subsimilibus margine patentim pilosis utrinque glabris v. longe et parce pilosis, calycibus pilosis, legumine oblongo v. ovato vix falcato piloso demum leviter inflato. *Benth.*

THERMOPSIS barbata. *Royle, Illustr. Himal. Pl. p.* 100. *t.* 34. *f.* 1. *Walp. Repert. v.* 1. *p.* 562. *Benth. in Hook. Lond. Journ. Bot. v.* 2. *p.* 431.

ANAGYRIS? barbata. *Graham, in Wall. Cat. n.* 5341.

A fine species of *Thermopsis*, with large and singularly-coloured flowers, raised by Mr. Moore at the Glasnevin Botanic Garden from seeds sent from Himalaya by Major Madden, and flowered in June of the present year in the open air. It is a native of elevations of 10,000 to 13,000 feet, chiefly in the drier valleys, and has been found from Sikkim westward to the Simla Himalaya.

DESCR. *Root* perennial, woody. *Stems* stout, erect, branching, six to eighteen inches high, villous with soft, spreading, white hairs, as are the bracts, pedicels, calyx, and petioles. *Leaves* whorled, sessile, lanceolate, acuminate or acute, glabrous or ciliated or hairy, three to seven in a whorl. *Flowers* in short axillary racemes, together forming a thick, dense, elongated, compound raceme. *Calyx* campanulate, with spreading, lanceolate,

subulate segments. *Petals* large, of a peculiar dull violet-colour, very dark. *Vexillum* erect, orbicular, two-lobed. *Alæ* rounded at the apex, shorter than the deflexed, oblong, blunt carina. *Stamens* all free. *Ovary* villous. *Pod* broadly oblong, blunt, suddenly contracted to a mucronate apex; valves villous; seeds two to four, oblong, reniform.

Fig. 1. Vexillum. 2. One of the alæ. 3. Carina. 4. Stamens and pistil 5. Pistil:—*magnified.* 6. Pod. 7. Leaves:—*natural size.*

Tab. 4869.

PHYSOSIPHON Loddigesii.

Mr. Loddiges' Physosiphon.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Calyx tubulosus, basi ventricosus, apice trifidus. *Petala* in fundo calycis, carnosa, nana. *Labellum* et *columna Stelidis. Pollinia* 2, sphærica.—Herbæ epiphytæ *habitu* Pleurothallidis. *Lindl.*

Physosiphon *Loddigesii*; folio oblongo obtuso racemo solitario multo breviore, calycis tubo triquetro, labelli lobo medio serrulato scabriusculo.

Physosiphon Loddigesii. *Lindl. in Bot. Reg. sub tab.* 1797.

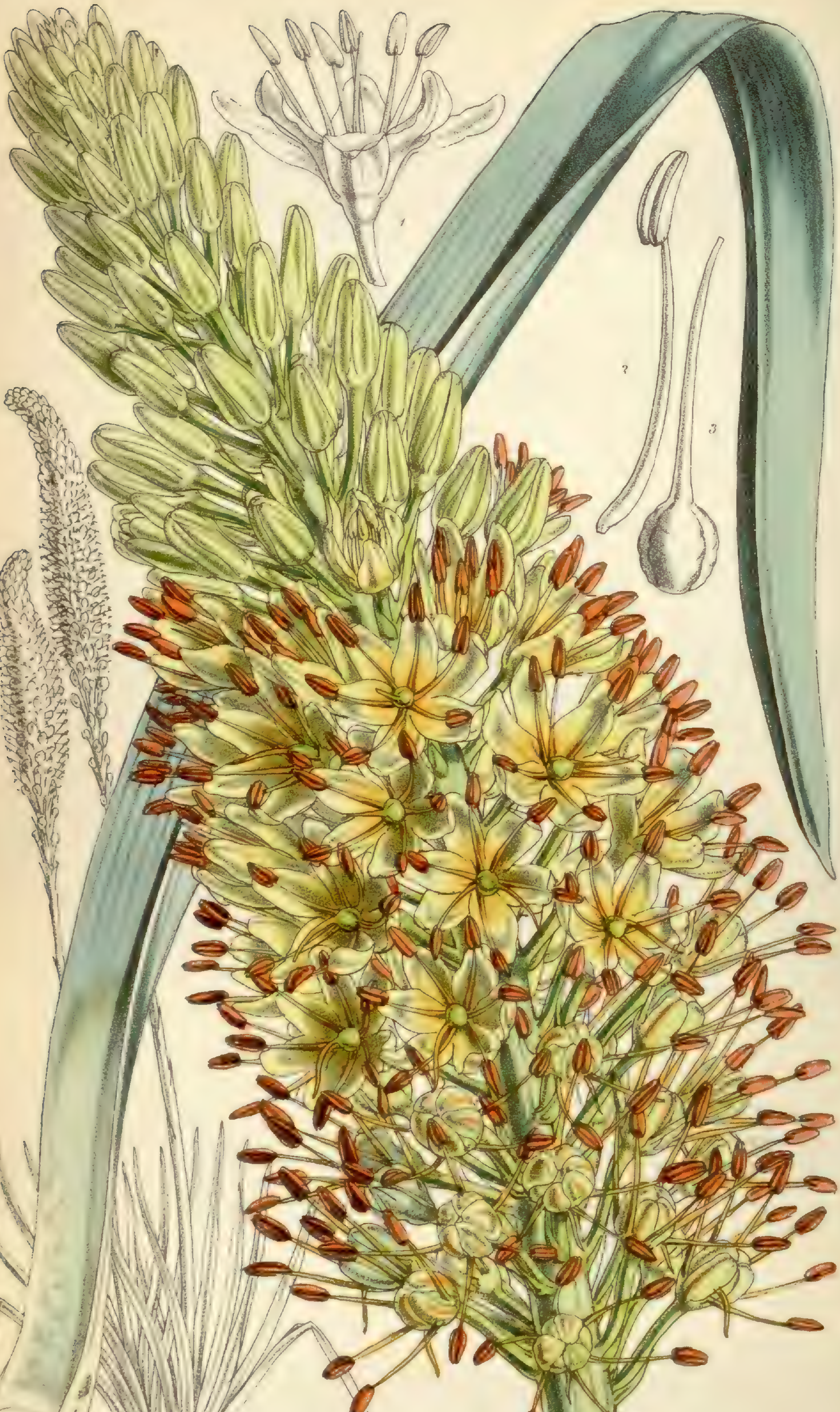
Stelis tubata. *Lodd. Bot. Cab. t.* 1601.

Received at Kew from the Belgian cultivators under a very inaccurate name; and we are obliged to Dr. Lindley for the correct one, and the reference to the figure in Loddiges' Bot. Cabinet. "Under the name of *Stelis tubata*," says Dr. Lindley, *l. c.*, "Messrs. Loddiges have published a very curious plant, with the habit of *Pleurothallis*, but with its sepals all united into a tube, which is inflated at the base and contracted at the mouth. Otherwise its fructification has the structure of *Stelis*." Besides the present species, Dr. Lindley includes in the genus *Phys. emarginatus* (Pleurothallis, *Lindl.*), and *Phys. spiralis*, Lindl. (in Herb. Hook., from St. Catherine, Brazil), *Phys. carinatus*, Lindl. (a species very near the present), *Phys. ochraceus*, Rich. and Galeotti (probably not distinct from this); and he has since expressed an opinion that Pœppig and Endlicher's *Specklinia dichotoma* is a fourth species. The present one is a native of the mountains of Oaxaca, and flowers with us in July. Mr. Loddiges describes and figures his plant as having drooping racemes; it is not so with us.

Descr. From apparently a slender, creeping *rhizome*, arise several, four to six or more, plants, each consisting of a petioled, oblong, subspathulate, coriaceous, obtuse, one-nerved *leaf*, the

petiole sheathed with two cylindrical brown scales, from within which the *scape* arises; this is very slender, filiform, shorter than the leaf, bearing one or two small, sheathing, remote *bracts*, and terminated by a long, slender, secund, erect, racemose *spike* of many, rather distant, solitary *flowers*, which spread horizontally. *Pedicels* a little longer than the sheathing, membranaceous bract, curved. *Flowers* yellow-green in the lower half, the rest deep red-orange, paler before full expansion. Three outer *sepals* (constituting the whole external portion of the flower) long lanceolate, but combined for more than half the length into the greenish, triangular *tube*, spreading or ventricose at the base, contracted at the mouth; the *limb* constituted by the three equally spreading, oblong, obtuse, mucronated, orange-coloured apices. The rest of the flower is very small, and wholly included within the tube. *Petals* obovate, shorter than the column and lip. *Lip* articulated upon a short prolongation of the base of the column, erect and applied to the face of the column, oblong, three-lobed; intermediate lobe ovate, serrated; within the lateral lobes on each side is a lamella. *Column* semiterete, three-lobed at the apex; *lobes* nearly equal, acute. *Anther* sunk in the cavity between the three lobes.

Fig. 1. Portion of a rachis and flower. 2. Petals, labellum, and column removed from the flower, fig. 1. 3. Column. 4. Labellum:—*magnified*.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Tab. 4870.

EREMURUS spectabilis.

Showy Eremurus.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. Calyx 6-sepalus, corollaceus, regularis, deciduus (?); *sepala* distincta, inferne tri- superne uninervia, subæqualia, patentia, mox involuta. *Stamina* 6, hypogyna, sepala duplo superantia. *Filamenta* filiformia, imberbia, in alabastro varie torta. *Antheræ* biloculares, oblongæ, dorso supra basim bifidam pro receptione filiformi foramine instructæ, margine tumido, secundum longitudinem interne dehiscentes, interdum 1–2 castratæ. *Ovarium* liberum, sessile, subglobosum, triloculare; *ovula* in loculis 2 vel 3, inversa, uno latere secundum longitudinem adnata (amphitropa, *Endl.*); exostomio inferne spectante. *Stylus* filiformis, stamina æquans, post fecundationem deorsum pendens, demum iterum adscendens (*Bieberst.*). *Stigma* parvum, truncatum, simplex. *Capsula* membranacea (*Endl.*), subgloboso-elliptica, 6-sulcata, trilocularis, loculicido-trivalvis; valvis medio septiferis. *Semina* in loculis 2–4, triquetra, arillo? tenuissime membranaceo fuscescente, ad angulos alato prominente obtecta; testa nigra, tenuis, coriacea. *Embryo* axilis, hilo parallelus, longitudine albuminis, extremitate radiculari infera.—Herba *perennis*. Radix *e fibris crassis fasciculata*. Folia *radicalia linearia, triquetro-carinata, striata;* caulis *scapiformis, erectus, simplex, nudus, apice racemoso-multiflorus*. Flores *longe pedicellati, solitarii, cernui*, pedicellis *basi unibracteatis, sub apice articulatis*. Sepala *flavicantia, carina virente*.

Eremurus *spectabilis.*

Eremurus spectabilis. *Bieberst. Plant. Ross. t.* 61. *Fl. Taur. Cauc. v.* 3. *p.* 269. *Fl. Alt. v.* 2. *p.* 25. *Sw. Fl. Gard. t.* 188. *Kth. Syn. Pl.* 4. *p.* 554. *Spreng. Syst. Veget. p.* 83.

Eremurus Altaicus. *Stev. in Nouv. Mém. de la Soc. des Nat. Mosc. v.* 3. 9. *p.* 98. *t.* 8.

Eremurus Caucasicus. *Stev. l. c. p.* 96. *t.* 6.

Eremurus Tauricus. *Stev. l. c. p.* 97. *t.* 7.

Asphodelus Sibiricus. *Sievers.*

Asphodelus Altaicus. *Pall.*

A really handsome, hardy, Asphodelaceous plant, native of Altaic Siberia, the Caucasus, Koordistan, Tauria, Scinde, etc. (Dr. Stocks). Variable indeed in its appearance (in a great measure perhaps depending upon soil and elevation above the level of the sea), and especially in the length and breadth of the

leaves, so that the excellent Steven has been induced to constitute three species; but neither do our authentic specimens, nor indeed the descriptions of Steven, show any tangible specific distinctions, and they are not adopted by succeeding botanists. Boissier has indeed referred the *Asphodelus Persicus* of Jaubert and Spach (Ill. Pl. Or. vol. 2. t. 102) to the genus *Eremurus;* but the lamented Dr. Stocks rightly observes, in his notes on specimens which he found in Scinde, "Hanc plantam sub *Eremuro* potius quam *Asphodelo* militare non solum ex antheræ, filamenti, stigmatisque characteribus (à cl. Bossiero enumeratis) patet,—sed etiam ex ovulis in ovarii loculis 4–6 seminibusque membrana laxa ad angulos alato-prominente testamque nigram tegente præditis." Walpers enumerates it twice over under *Eremurus* and under *Asphodelus*. Boissier's *E. Aucheriana* does not seem to be truly different from *spectabilis*. It produces its long racemes of sulphur-yellow flowers, with large bright orange-coloured anthers, in the month of June.

Descr. *Root* perennial, of several thick, fleshy, descending fasciculated *fibres*. *Leaves* all radical, from six inches to a foot long, and from half an inch to two inches in width, linear-ligulate, glaucous-green, moderately channelled and obscurely keeled, sheathing at the base. *Scapes* three to four times as long as the leaves (including the raceme), erect, terete, striated, bracteated. *Raceme* elongated, subcylindrical, many-flowered. *Flowers* erect in bud, patent when fully expanded. *Bracteas* subulate, generally shorter than the pedicels, which latter are about an inch long. *Perianth* divided to the very base, with six ovato-elliptical, spreading, sulphur-coloured *sepals*, slightly tinged with orange. *Stamens* six. *Filaments* rather longer than the sepals, orange-coloured in their lower half. *Anthers* oblong, deep orange. *Ovary* globose. *Style* subulate. *Stigma* a mere point.

Fig. 1. Flower. 2. Stamen. 3. Pistil:—*magnified*.

Tab. 4871.

ACHIMENES HETEROPHYLLA.

Various-leaved Achimenes.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4312.)

Achimenes *heterophylla;* parce pilosa, caule simplici atro-purpureo, foliis oppositis petiolatis altero sæpius minore ovatis acuminatis reticulato-venosis grosse serratis, pedunculo axillari solitario unifloro basin versus sæpe bibracteolato, calycis lobis subulato-lanceolatis erectis æqualibus parce ciliatis, tubo ovario adhærente, corollæ coccineæ tubo (intus flavo) infundibuliformi-cylindraceo basi superne gibboso, limbi lobis æqualibus patentibus rotundatis crenatis, stylo staminibus longitudine corollæ tubi.

Achimenes heterophylla. *De Cand. Prodr. v.* 7. 536 (*excl. Syn. Mart. t.* 120. *f.* 2). *Bentham, Plant. Hartw. p.* 47. *Hartw. Herb. Mexic. n.* 352. (*Herb. Nostr.*)

Trevirania heterophylla. *Mart. Nov. Gen. et Sp. v.* 3. *p.* 65.

Achimenes Ghiesbrechtii. *Henders. Cat.* 1853 (name only: but quoting as syn. "A. ignescens," *Lemaire, MS. in Van Houtte Fl. der Gwchshsr. v.* 3 *t.* 45: according to *Walp. Ann. Bot. v.* 1. *p.* 473).

From the stove of the Royal Gardens of Kew, where it flowers in July and August. Our plant was received from Mr. A. Henderson, Pineapple-place, Edgware-road, under the name of *A. Ghiesbrechtii* of Van Houtte; and in Mr. Henderson's catalogue for 1853 this is given as identical with *A. ignescens* of Lemaire. But it is unquestionably a species from Mexico, long ago described by Martius as *Trevirania heterophylla* (Achimenes, *DC.*), although our artist has not distinctly represented the inequality of size in the opposite pairs of leaves which generally prevails. It is a handsome species, most like *Achimenes pedunculata*, Benth., Tab. 4077 of our 'Botanical Magazine.'

De Candolle has committed a little error in quoting Martius' figure in the Nov. Gen. etc., t. 226, f. 2. The figure given there is thus referred to by Martius, under the species:—"Videas characterem fructificationis (meaning of the genus) in tab. 226. f. 2, *Trevirania pulchella.*"

September 1st, 1855.

Descr. *Root* fibrous. *Stem* from a span to a foot high, dark purple, herbaceous, slightly hairy, erect, decumbent only at the very base. *Leaves* opposite, petioled, ovate, acuminate, one of each pair usually smaller than the opposite one, the margins coarsely serrated, the surface rugose with reticulated depressed veins. *Peduncles* solitary, axillary, single-flowered, generally having a minute pair of opposite minute bracteas near the base. *Calyx* superior, of five, deep, subulate-lanceolate, erect, slightly ciliated lobes. *Corolla* rich scarlet, glabrous (yellow within the tube); the tube between cylindrical and funnel-shaped, slightly curved, and slightly gibbous at the base above. *Limb* of five, spreading, equal, rounded, waved and crenulated lobes. *Stamens* four, didynamous. *Filaments* inserted at the base of the tube of the corolla, and nearly equal to it in length, and a fifth abortive, subulate, very short filament. *Ovary* turbinate, united with the tube of the calyx. *Style* filiform, as long as the stamens; at its base is a five-lobed annular gland. *Stigma* two-lobed.

Fig. 1. Corolla laid open. 2. Ovary and style and portion of the calyx:—*magnified.*

Vincent Brooks Imp

Tab. 4872.

LEPTODACTYLON Californicum.

Californian Leptodactylon.

Nat. Ord. Polemoniaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubuloso-campanulatus, subæqualis, semiquinquefidus, lobis subulatis spinescentibus, sinubus membranaceis. *Corolla* infundibuliformis, limbo patente, lobis obovatis obtusis. *Stamina* intra partem superiorem tubi inserta, æqualia. *Antheræ* oblongæ. *Stylus* cum *stigmatibus* tubo corollæ duplo brevior. *Capsula* sublignosa, apice dehiscens; loculis polyspermis, columna centrali crassiuscula.—Frutices *humiles, ramosissimi.* Folia *alterna, profunde palmatisecta, laciniis subulatis rigidis spinescentibus; alia axillaria, integra, fasciculata.* Flores *terminales, speciosi,* Phlocem *simulantes.*

Leptodactylon *Californicum;* superne pubescens, foliis patentibus, corollæ tubo exserto.

Leptodactylon Californicum. *Hook. et Arn. Bot. of Beech. Voy. v.* 1. *p.* 369. *t.* 89.

Gilia Californica. *Benth. in De Cand. Prodr. v.* 9. *p.* 316.

This lovely and hardy plant was considered by Dr. Arnott and myself to constitute a distinct genus of *Polemoniaceæ*, and we named it *Leptodactylon*, from the deeply-digitated leaves and their very narrow segments. Mr. Bentham however considers our genus rather to form a section of *Gilia*, to which he gives our name, *Leptodactylon*, and he adds to the two (*L. Californicum* and *L. Hookerii*), which we had referred to it, a third, from the Rocky Mountains, namely, the *Cantua pungens* of Dr. Torrey (*Ogochloa Torreyi* of Don, in Gard. Dict. vol. 4. p. 246). The habit of our plant is more that of a *Phlox* than of a *Gilia*. The present species is a native of California, as its name implies, and was first brought to notice by Douglas. Dr. Coulter also found it in the same country, and Mr. William Lobb sent seeds of it to Messrs. Veitch from San Bernardino, in South California, and has thus been the means of introducing it to our gardens, where, both in the Nursery at Exeter and at King's-road, Chelsea, it forms a low shrub in the open border, remarkable for the slender segments of its copious foliage, and for the size and beauty of the corollas. Blossoms in July.

September 1st, 1855.

Descr. A low procumbent *shrub*, much branched, the branches slender, densely covered with fasciculated foliage. *Leaves* alternate, deeply cut in a digitated manner, almost to the very base, into from five to seven, subulate, but terete, rigid, hairy segments mucronate at their apices. *Flowers* copious, large, from short lateral branches, often so crowded as entirely to conceal the leaves and branches, sessile from the axils of the leaves. *Calyx* with long, spreading hairs; *tube* cylindrical, with five ribs; *teeth* subulate, mucronate. *Corolla* hypocrateriform, rose-coloured; *tube* slender, longer than the calyx; *limb* of five, large, spreading, cuneate, sometimes erose lobes. *Anthers* five, almost sessile, inserted just within the tube of the corolla, oblong. *Ovary* ovate, glabrous, arising from an annular disc. *Style* as long as the ovary. *Stigmas* three, erect, linear, as long as, or longer than the style.

Fig. 1. Leaf with its axillary fascicle. 2. Calyx. 3. Corolla, the tube laid open, showing the stamens. 4. Pistil:—*magnified.*

Tab. 4873.

HELIANTHEMUM Tuberaria.

Truffle Rock-rose.

Nat. Ord. Cistaceæ.—Polyandria Monogynia.

Gen. Char. *Calyx* triphyllus, bibracteolatus, bracteolis minutis, rarissime calycis foliola æquantibus vel nullis. *Corollæ petala* 5, hypogyna, æqualia. *Stamina* plurima, hypogyna, omnia fertilia; *filamenta* filiformia, libera; *antheræ* biloculares, longitudinaliter dehiscentes. *Ovarium* uniloculare vel incomplete triloculare, placentis nerviformibus, parietalibus vel semisepta marginantibus. *Ovula* pauca vel plurima, orthotropa, e funiculis plus minus longis adscendentia vel pendula. *Stylus* terminalis, cum ovario articulatus, filiformis vel subclavatus; *stigma* capitato-trigonum. *Capsula* chartacea vel subcartilaginea, unilocularis vel incomplete trilocularis, loculicide trivalvis, valvarum endocarpio membranaceo, medio placentas vel semisepta margine seminifera gerente. *Semina* plurima vel pauca, funiculo libero ad chalazam micropyli e diametro oppositam, inserta. *Embryo* intra albumen antitropus, uncinatus vel sigmoideus, cotyledonibus radiculæ superæ, chalazæ e diametro oppositæ, interposito albumine accumbentibus vel incumbentibus.—Herbæ, suffrutices, *vel* fruticuli, *in Europa media et regione Mediterranea crescentes;* foliis *alternis vel oppositis, stipulatis vel exstipulatis, tri- vel penniveniis;* floribus *solitariis, umbellatis, racemosis, corymbosis vel paniculatis. Endl.*

Helianthemum *Tuberaria;* perenne, caulibus adscendentibus subsimplicibus, foliis radicalibus in petiolum desinentibus ovato-oblongis trinerviis tomentoso-hirsutis canescentibus subtus nervosis supra sulcatis, caulinis sessilibus subglabris lanceolatis summis alternis, pedicellis basi bracteatis paucis subpaniculatis, calycibus glabris nitidis. *De Cand.*

Helianthemum Tuberaria. *Mill. Dict. n.* 10. *De Cand. Prodr. v.* 1. *p.* 270.

Cistus Tuberaria. *Linn. Sp. Pl. p.* 741. *Cav. Ic. v.* 1. *p.* 65. *t.* 67.

Tuberaria nostras. *Bauh. Hist. v.* 2. *p.* 12.

A really charming plant, the largest-flowered of all the species of *Helianthemum*, resembling in its blossoms a yellow rose, and well adapted for sunny rockwork in a garden. Flowers in July, and the blossoms continue long in succession. The species inhabits the south of France, Italy, Spain, Portugal, Sicily, and the north of Africa. It derives its specific name (*Tuberaria*) from the fact that it is found frequently in ground where Truffles more or less abound. Hence it is the "*Tuberaria nostras*" and "*Tuberaria major*" of Bauhin.

September 1st, 1855.

Descr. *Root* perennial. *Leaves* mostly radical, and these are spathulate, that is, ovate or oblong, rarely subovate, acute, entire, hairy and subtomentose (as is every part of the plant), three-nerved, tapering below into a long *petiole*. *Flowering-stems* (they may almost be called *scapes*) erect, panicled above, bearing a few small, sessile, ovate, acute *leaves*, sometimes opposite. *Branches* of the *panicle* bearing one-sided or secund *racemes*. *Pedicels* bracteated at the base. *Flowers* very drooping in bud, erect when fully expanded in the sun. *Calyx* five-sepaled, glabrous. *Sepals*, two outer small, three inner large, broad-ovate, very acute, and very concave. *Petals* five, bright yellow, large, obcordate, spreading, with a dark blood-coloured spot at the base. *Stamens* numerous; *filaments* rather short, purple; *anthers* subglobose, deep yellow, almost orange. *Ovary* globose. *Stigma* globose, sessile.

Vincent Brooks Imp

Tab. 4874.

SALVIA carduacea.

Thistle-leaved Sage.

Nat. Ord. Labiatæ.—Diandria Monogynia.

Gen. Char. Calyx ovatus, tubulosus vel campanulatus, bilabiatus, labio superiore integro vel tridentato, inferiore bifido, fauce intus nuda. *Corolla* tubo incluso vel exserto, æquali, ventricoso vel ampliato, intus nunc piloso-annulato, nunc nudo vel ad basin in latere inferiore processubus vel dentibus 2 instructo; limbo bilabiato, labio superiore erecto vel rarius patente, breviore vel longiore, lobis lateralibus oblongis vel rotundatis; patentibus, reflexis vel contorto-erectis, medio plerumque latiore, integro vel emarginato. *Staminum* superiorum *rudimenta* nulla, vel parva claviformia; fertilia (inferiora) 2 prope faucem tubi inserta; *filamenta* brevia, subhorizontalia vel rarius erecta, apice cum anthera articulata et supra articulationem plerumque breviter producta, rarissime subcontinua. *Antheræ* dimidiatæ. *Connectiva* elongata, linearia, transverse cum filamento articulata; postice sub labio superiore corollæ adscendentia et apice loculum fertilem linearem adnatum vel versatilem ferentem, antice deflexa vel erecta, nunc loculum alterum subconformem minorem polliniferum vel difformem cassum gerentia, nunc dilatata vel rarius brevissima, acuta, libera, vel sæpius variis modis inter se connexa vel connata. *Ovarii discus* antice tumens in glandulam lobis subæqualem. *Stylus* adscendens, apice bifidus, lobis nunc subulatis æqualibus vel superiore longiore, nunc inferiore vel utroque rotundato dilatato complanato. *Nuculæ* ovoideo-triquetræ, siccæ, glabræ, plerumque lævissimæ.—Genus *vastum, fere in omnibus regionibus terræ obvium, habitu et inflorescentia magnopere varium, semper antherarum structura agnoscendum. De Cand.*

Salvia (§ Echinosphace) *carduacea;* caule erecto herbaceo subsimplici albolanato, foliis petiolatis oblongis pinnatifidis subtus laxe lanatis, lobis ovatis sinuato-dentatis, dentibus spinoso-acuminatis, floralibus bracteisque imbricatis spinosissimis, verticillastris remotis dense multifloris, calycibus inflatis lanatis, corollæ tubo subincluso, labii inferioris lobo medio fimbriato.

Salvia carduacea. *Benth. Lab. p.* 302. *De Cand. Prodr. v.* 12. *p.* 349.

One of the most remarkable and easily recognized of the 407 species of the genus *Salvia* published by Mr. Bentham in De Candolle's Prodromus. That gentleman says of it, "Species distinctissima, habitu *Morinæ Persicæ* vel *Cardui.*" It is a native of California, discovered about the same time by Mr. Douglas and Dr. Coulter; and now first introduced to our gardens by Messrs. Veitch, of the Exeter and Chelsea Nurseries, through

their collector Mr. Lobb. It proves perfectly hardy, and is well worthy a place in every garden. The flowers are large, beautifully fringed, and of a delicate pale-purple colour, with deep orange-coloured anthers: these flowers subtended by bracts and floral leaves, quite resembling those of the *Morina Persica*. The plant blossoms in July in the Exeter Nursery, whence our plant here figured was derived. We have Coulterian and Douglasian specimens in our Herbarium from California Proper, and others from Los Angelos de Santa Barbara, from Mr. Nuttall, gathered by Mr. Gambell.

Descr. *Root* fusiform, perennial. *Stem* one foot to one and a half foot high, erect, four-angled and striated, very woolly, branching at the base. *Leaves* all radical, oblong-spathulate, petiolate, sinuate, the lobes acute, spinuloso-serrate, cobwebby, densely woolly beneath. *Flowers* terminal, in large, dense *pseudo-whorls*; the lower pseudo-whorl generally distant from the rest. *Bracts* and *floral-leaves* verticillate, spreading, but imbricate at the broad sessile base, oblong, acute, sinuato-spinulose, very woolly. *Calyx* also with long lax wool, almost an inch long, two-lipped; *upper* lip tridentate, *lower* shorter, bifid; all the teeth spinulose. *Corolla* with the tube as long as the calyx, white; *limb* pale bluish-purple, as long as the *tube*, bipartite, gaping. *Upper lip* oblong, bifid and laciniated, plane or with the margins recurved; lower trifid: lateral lobes small, lanceolate, slightly falcate, entire, intermediate one large, flabelliform, deeply fimbriated; halfway down within the tube of the corolla is a hairy ring. *Stamens* with *sterile* branch short, deflexed within the tube; *fertile* branch erect, exserted, as long as the lower lip. *Fertile anther* linear, curved, one-celled, hairy. *Ovary* four-lobed, on a gland or receptacle as large as itself. *Style* longer than the corolla. *Stigma* bifid.

Fig. 1. Flower. 2. Corolla laid open. 3. Fertile anthers. 4. Pistil:— *all more or less magnified.*

1. 2. 3. 4.

TAB. 4875.

RHODODENDRON KEYSII.

Mr. Keys' Rhododendron.

Nat. Ord. ERICACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

Subgen. KEYSIA, *Nutt. Corolla tubuloso-cylindracea, limbi lobis erecto-conniventibus, racemis brevibus e ramis vetustis lateralibus.* Nutt.

RHODODENDRON (§ Keysia) *Keysii;* ramis ferrugineis resinoso-punctatis, foliis petiolatis elliptico-lanceolatis acutissimis mucronatis glabris, subtus pallidis utrinque (subtus præcipue) resinoso-punctatis, racemis aggregatis lateralibus ad basin ramulorum novellorum, calyce minuto e dentibus 5 acutis æqualibus erectis, corolla tubulosa(!), limbi lobis 5 erectis ovatis obtusis, staminibus 10, filamentis corollæ tubum æquantibus inferne hirsutis, ovario ovato resinoso-punctato, stylo corolla breviore inferne hirsuto, stigmate vix dilatato minute 5-lobo.

RHODODENDRON Keysii. *Nutt. in Hook. Journ. of Bot. v.* 5. *p.* 353.

This very remarkable *Rhododendron* is one of several new species of the genus that rewarded the researches of Mr. Booth in the mountains of Bootan,* and has been communicated to us by his relative, Mr. Nuttall, from the garden at Mosley Hill, Aigburth, Liverpool, the residence of Adam Fairrie, Esq. (Mr. P. Williams, gardener), with the name, *R. Keysii*. The remarkable form of the corolla in this species, so unlike that of any in the genus, could not however escape the notice of so acute an observer as Mr. Nuttall; and he suggested that it should constitute a subgenus, under the name of *Keysia*, characterized by the cylindrical corolla having a nearly equal five-lobed connivent border. This name we have adopted. Mr. Nuttall further observes, that it bears its flowers in short axillary racemes coming out of the old wood; and that in this respect, as in the shape of

* At an elevation of 9,000 to 10,000 feet above the sea-level; on the summit and northern ridges of the Lablung, forming low thickets, among *Gaultherias* and stunted Yews, above the ranges of *R. Hookeri* and *R. Falconeri*, and amid snows two and three feet deep.

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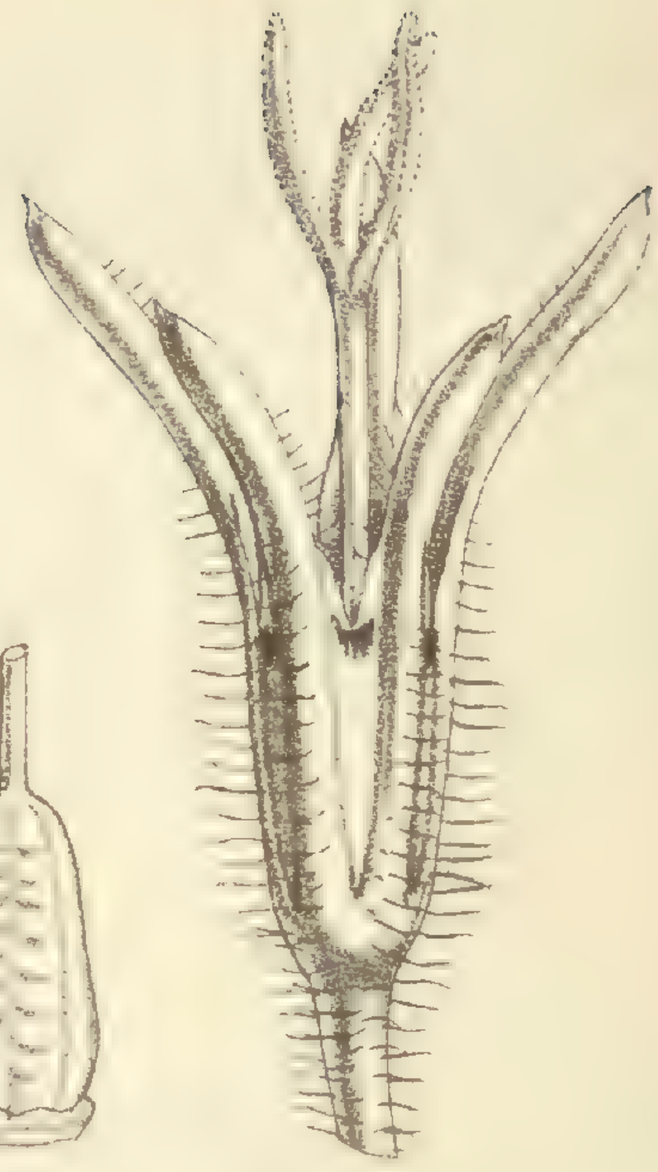
the corolla, it resembles a *Thibaudia* or *Agapetes*. It is indeed a very remarkable species. The plant is cultivated under a vine in a cool greenhouse, in consequence of which, Mr. Williams observes, the flowers (produced in July) are paler than they would otherwise have been. The corollas too, let it be remarked, from the blossoming having been too far advanced, had mostly fallen off before the specimens reached the artist's hands. In Mr. Nuttall's garden it proved quite hardy during 1851 and 1852.

Descr. Small *shrub*, with ferruginous *branches*, the young ones densely dotted with resinous, glossy, reddish scales. *Leaves* three to four inches long (on footstalks half to three-quarters of an inch long), between elliptical and lanceolate, moderately coriaceous, glabrous, rather obtuse at the base, very acute and mucronated at the apex, the upper side full green, the under side paler; both sides, but especially beneath, closely sprinkled with the same reddish resinous dots as the young branches; costa ferruginous. *Veins* not very conspicuous. *Racemes* clustered, lateral, in consequence of the terminal shoot of the season, which crowns the flowers: the *bracts* (if any) had fallen. *Pedicels* dotted. *Calyx* minute, of five erect, nearly equal, short, acute teeth. *Corolla* an inch long, forming a nearly cylindrical *tube*, only very slightly contracted below the *limb*, of a pale brick-red colour (in the state in which we received them), yellowish at the mouth and on the under side. *Limb* of five, erect or subconnivent, ovate, obtuse lobes. *Stamens* and *pistil* included. *Filaments* hairy below. *Anthers* with two large pores. *Ovary* resinoso-punctate, ovate, five-celled. *Style* hairy below. *Stigma* of five minute lobes or points.

Fig. 1. Flower and pedicel. 2. Stamen. 3. Calyx and pistil. 4. Transverse section of ovary:—*magnified.*

1



2

4

3

Vincent Brooks Imp

Tab. 4876.

GILIA dianthoides.

Pink-like Gilia.

Nat. Ord. Polemoniaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubuloso- vel obconico-campanulatus, 5-fidus, laciniis acutis. *Corolla* infundibuliformis, nunc tubo longissimo fere hypocraterimorpha, nunc tubo brevissimo subrotata, limbo regulari. *Stamina* ad faucem vel paulo infra æqualiter inserta, filamentis basi nudis vel piloso-appendiculatis. *Discus* cupuliformis, rarius obscurus. *Ovarium* ovoideum. *Ovula* in loculis sæpius plurima (6–10) biseriata, interdum pauca, imo solitaria, nunc numerosissima 3–4 seriata. *Styli lobi* sæpe papilloso-hispidi. *Capsula* oblonga vel obovoidea, obtusa. *Semina* ovoidea, angulata vel compressa, rarius angustissime alata.—Herbæ *annuæ vel perennes, glabræ, vel superne pubescentes vel lanatæ.* Folia *alterna vel opposita, subulata vel linearia, integra vel dissecta.* Flores *nunc capitati, bracteis suffulti vel ebracteati, nunc sæpius dissiti ebracteati.* Corollæ *elegantes, lilacinæ purpurascentes albidæ vel rarius flavicantes. DC.*

Gilia (§ Dianthoides) *dianthoides;* pusilla, simplex vel ramosissima glabra vel hirsuta, ramis 1-paucifloris, foliis linearibus, floribus pedunculatis, corollæ lobis acutis serratis.

Gilia dianthoides. *End. Atakt. t.* 29. *Benth. in De Cand. Prodr. v.* 9. *p.* 314.

Fenzlia dianthiflora. *Benth. in Bot. Reg.* (*under Tab.* 1622, *Collomia coccinea*). *Hook. Ic. Plant. v.* 2. *p.* 199.

This lovely annual, so well suited for a bedding-out plant, is a native of California, where it was discovered by Douglas; but is only now introduced to our gardens by the Messrs. Veitch, of the Exeter and Chelsea Nurseries, through their collector, Mr. William Lobb. Pretty as the species is in its wild state, and as figured at Tab. 199 of our 'Icones Plantarum,' cultivation so much improves it that at first sight it would be hardly recognized as the same; for it becomes, from a little upright, scarcely branched plant, with two or three flowers, a closely ramified and spreading one, the filiform branches and small linear leaves completely covered and concealed by the numerous blossoms, of the most delicate lilac colour, each having five dark blood-coloured

spots surrounding an orange-coloured eye in the centre. The species blooms during the summer months, continuing long in flower if sufficiently supplied with moisture.

Descr. *Root* annual, fibrous, slender. *Stem* two to five or six inches long, slender, filiform, glabrous, or with spreading hairs, erect and nearly simple, or spreading more or less, often very much and dichotomously branched; in the latter case many-flowered. *Leaves* opposite, connate at the base, in distant pairs, narrow, linear, hairy, and ciliate in the lower half. *Peduncles* short, erect, slender, hairy, terminal and axillary, solitary, single-flowered. *Flowers* erect. *Calyx* of five linear segments, which are unequal in length, hairy on the back: the tubular portion is membranous between the segments. *Corolla* rotate, large in proportion to the size of the plant; *tube* short: *limb* of five, obovate, acute, spreading lobes, of a delicate lilac colour, sharply dentato-serrate at the margin: at the base of each segment is a dark, blood-coloured spot; and the mouth of the tube is orange-yellow. *Stamens* five, equal, inserted near the base of the tube: *filaments* slender, subulate. *Anthers* oval, orange-coloured. *Ovary* ovate. *Style* a little longer than the tube. *Stigmas* three, linear.

Fig. 1. Flower. 2. Calyx and pistil. 3. Ovary. 4. The same cut through transversely. 5. Leaves:—*magnified.*

1
2

Tab. 4877.

RHEUM ACUMINATUM.

Sharp-leaved Sikkim Rhubarb.

Nat. Ord. Polygoneæ.—Enneandria Trigynia.

Gen. Char. Perianthium 6-partitum, persistens. *Stamina* 9, perigonii foliolis exterioribus geminatim, interioribus singillatim opposita. *Stigmata* 2–3. *Caryopsis* late alato-triquetra, basi perigonio emarcido stipata.—Herbæ *perennes Asiaticæ*, foliis *amplis*, floribus *paniculatis v. spicato-racemosis*.

Rheum *acuminatum;* tripedale, ramosum, puberulum, foliis late cordatis acuminatis, petiolis ramisque paniculæ sulcatis granulatis, panicula composita ramis strictis erectis, floribus (pro genere) majusculis, perianthii segmentis subæqualibus late oblongis.

Rheum acuminatum. *Hook. fil. et Thoms. MSS.*

The subject of this Plate, which is the common Rhubarb of the Sikkim Himalaya, so closely resembles in most respects the well-known *R. Emodi*, Wall. (*R. australe*, Don, see our Tab. 3508) that we long hesitated about the propriety of describing it as a different species; after however having seen both cultivated for six years in the Royal Gardens at Kew, we find no tendency in the present to assume either the stature or the better-marked botanical characters of *R. Emodi;* and as the cultivated specimens further retain all the distinctive features of the wild ones, which were gathered in several distant localities, there can be little doubt but that the two are permanently distinct. The prominent characters of *R. acuminatum* are, its small stature and slender habit, never exceeding a yard in height; its relatively much broader leaves, which terminate in a long acuminate point; its flowers being three or four times the size of those of *R. Emodi*, and the segments of the perianth nearly equal, broader, and more rounded. It inhabits rocky places, often amongst brushwood in the subalpine and alpine regions of the Himalaya of Sikkim and East Nepal, at elevations of 9–13,000 feet; the stems are pleasantly acid, and, though more dry and stringy than those of *R. Emodi*, may be used for tarts; the root is spongy, and but slightly, if at all, medicinal.

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With regard to the true *R. Emodi*, Wall., which is the *R. australe* of Don, it appears hitherto to have been found by Dr. Wallich's collectors only and in Nepal; and, as Royle has pointed out, Wallich's specimens of it preserved in the Linnean Herbarium are mixed with another species, *R. Webbianum*, Royle. The latter has since been collected in Kumaon (and in the Tibetan province of Gugi, north of Kumaon) by Messrs. Strachey and Winterbottom, in whose herbarium it is distributed under the name of *R. Emodi*. It is a specimen of this latter that Meisner has further described as *R. Emodi* in Wallich's 'Plantæ Asiaticæ Rariores' (vol. iii. p. 65); and it was probably this also that Wallich intended should bear that name, as it yields a far better drug than the plant of which he sent home seeds, and which has ever since been cultivated as *R. Emodi*, Wall., or *R. australe*, Don.

Descr. *Root* a slender tap, sometimes several feet long, bright orange within, spongy, and smelling slightly of medicinal Rhubarb. *Stem* two to three feet high, sparingly branched, more or less deeply red-purple or vinous, strongly grooved, covered, as well as the petioles, panicles, peduncles, and pedicels, with minute, granular, crystalline points. *Stipules* rather large, lanceolate, acuminate. *Petioles* slender. *Leaves* a span long, broadly cordate, deeply bilobed at the base, with long, acuminate points, pubescent below, opaque above, covered with minute crystalline cells. *Panicle* sparingly branched; *branches* slender, rigid, bearing small ovate leaves at the axils of the main divisions. *Pedicels* very slender. *Flowers* upwards of a quarter of an inch across, deep lurid red-purple, or brown-purple. *Lobes* of the perianth nearly equal in size, rounded. *Fruit* as in *R. Emodi*, Wall.

Fig. 1. Flower. 2. Pistil. 3. Fruit :—*magnified.*

Tab. 4878.

ODONTOGLOSSUM MACULATUM.

Spotted Odontoglossum.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. *Perianthium* explanatum, æquale; sepalis petalisque angustis acuminatis liberis. *Labellum* indivisum, ecalcaratum, unguiculatum: ungue cum basi columnæ continuo; lamina patente basi cristata. *Columna* erecta, membranaceo-marginata, apice utrinque alata. *Anthera* bilocularis. *Pollinia* 2, solida, caudicula lineari, glandula hamata.—Herbæ *epiphytæ*, *pseudobulbiferæ*. Folia *plicata*. Scapus *terminalis*, *vaginatus*. Flores *speciosi*. *Lindl.*

Odontoglossum *maculatum;* pseudobulbis oblongis compressis monophyllis, foliis oblongis nervosis acutiusculis, racemis pendulis multifloris brevioribus, bracteis navicularibus herbaceis ovario brevioribus, sepalis lineari-lanceolatis acuminatis discoloribus, petalis oblongis undulatis acuminatis, labello cordato acuminato subcrenato, appendice unguis bivalvi concava cochleari apice producta emarginata per medium argute serrulata, columna pubescente. *Lindl.*

Odontoglossum maculatum. *Lindl. Bot. Reg. v.* 26 (1840). *t.* 30.

From the Orchideous house at Kew, where it bears its long pendent spike of lovely flowers in August. It is a native of Mexico, imported thence by Count Karwinski, who has the credit of its discovery. Dr. Lindley notices its affinity with the *Odontoglossum Cervantesii* of La Llave, and *O. cordatum* of the 'Floral Cabinet,' but pronounces it to be truly distinct.

Descr. The specific character above given suffices for its distinction from other species. The *pseudobulbs* are rather small, clustered, oblong, compressed, green, and subtended by herbaceous scales. *Leaf* solitary, terminal on the bulb, oblong, lanceolate, one-nerved, acute, subcoriaceous. *Scape* elongated, from the base of the pseudo-bulbs, bracteated. *Spike* pendent, six- to eight-flowered. *Flowers* large, very handsome. *Calyx* of three lanceolate, spreading, much acuminated *sepals*, deep yellow, blotched with rich brown, uppermost sepal the largest and

longest. *Petals* spreading, of the same shape, but broader and shorter, more regularly spotted. *Lip* large, spreading, white, with reddish blotches. *Column* downy.

Fig. 1. Column and base of the lip. 2. Pollen-masses :—*magnified.*

Tab. 4879.

CAMPANULA PRIMULÆFLORA.

Primrose-leaved Bell-flower.

Nat. Ord. Campanulaceæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-fidus. *Corolla* apice 5-loba vel 5-fida, sæpius campanulata. *Stamina* 5, libera; *filamentis* basi latis et membranaceis. *Stylus* in præflorationе pilis collectoribus (excepta ima basi) tectus. *Stigmata* 3 vel 5, filiformia. *Capsula* 3–5-locularis, valvis 3–5 lateraliter dehiscens. *Semina* ovata, complanata vel ovoidea.—Herbæ *sæpius perennes, nunc humiles et humifusæ, nunc* 2–3-*pedales, erectæ, multifloræ*, foliis radicalibus *sæpius forma diversis*. floribus *terminalibus vel axillaribus. Omnes in hemisphærio boreali. DC.*

Campanula (§ Eucodon) *primulæflora;* caule hispido simplici erecto, foliis pilosis inæqualiter duplicato-crenatis, radicalibus oblongo-lanceolatis obtusiusculis petiolo marginato, caulinis ovato-oblongis acutis, floribus spicato-racemosis axillaribus ternis vel singulis, tubo calycis obconico piloso. lobis acuminatis basi latis denticulatis corolla campanulata rotata duplo brevioribus. *DC.*

Campanula primulæfolia. *Bot. Fl. Lusit. p.* 288. *Phytogr. v.* 1. *t.* 20. *De Cand. Prod. v.* 7. *p.* 478.

Campanula peregrina. *Hoffm. et Link, Fl. Port. v.* 2. *p.* 15. *t.* 83 (*not Linn.*).

The volume of De Candolle's 'Prodromus,' published in 1839, contains 182 species of *Campanula*, and fifty-five species are added since that period, and are included in Walpers' 'Repertorium' and 'Annales.' Many of them are probably of doubtful specific value. Happily the present one is well marked, and has been both well defined and well figured in two continental publications, though mistaken for another species in that of Link and Hoffmannsegg: and it is one that deserves to be better known in this country than it is, for it is eminently handsome and quite hardy, and may be made a great ornament to our flower-borders. It is a native of Portugal,* growing in moist rocks and shady places of the Algarves and Beira, and near Coimbra, above Punhete and about Monchica: probably a rare

* The native country of this is, by some accident, omitted in De Candolle's 'Prodromus.'

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species. It flowers with us in July and August. Its nearest affinity is with *C. peregrina* (Bot. Mag. t. 1257), from which it differs essentially in its perennial root, angular, hispid stem, in the different form and hairiness of the leaves, and in the absence of the dark, almost black ring in the inner base of the corolla.

Descr. *Root* perennial. *Stem* annual, erect, two to three feet high, branching only at the base (hence the plant takes a pyramidal figure), angular, succulent, the angles winged and hispid. *Leaves* oblong or broad, lanceolate, alternate, spreading, reticulately veined, unequally crenato-serrated and hairy, or hispid, chiefly on the veins beneath, sessile, on the radical ones only tapering into a winged, short petiole. *Flowers* solitary, or three or four from the axils of leaves, which gradually become smaller and bracteiform upwards. *Peduncles* short, single-flowered, hispid. *Calyx-tube* hemispherical, angled, hispid: *limb* of five spreading, lanceolate-subulate, sometimes serrated, ciliated segments, shorter than the tube of the corolla. *Corolla* large, handsome, glabrous, purple-blue, pale at the base within: *tube* short, broad, campanulate, spreading at the mouth: *limb* of five broad-ovate, rather acute, spreading lobes. *Filaments* with a very broad, dilated base, completely covering the top of the ovary: *anthers* linear. *Style* short: *stigmas* three, large, linear-oblong, spreading.

Fig. 1. Pistil and stamens:—*magnified.*

1881

Tab. 4880.

CLERODENDRON FŒTIDUM.

Fetid Clerodendron.

Nat. Ord. Verbenaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx campanulatus, rarius tubulosus, interdum pentagonus .. subinflatus, 5-fidus vel 5-dentatus, rarissime truncatus. *Corolla* infundibuliformis vel sublhypocraterimorpha, tubo sæpissime calycem conspicue excedente interdum longissimo, limbo 5-partito laciniis superioribus paulo magis approximatis subinæquali vel laciniis inferioribus magis minusve adscendentibus obliquo immo subsecundo. *Stamina* 4, corollæ tubo inserta, longe exserta, subdidynama. *antheræ* supra basin insertæ, basi fissæ, biloculares, loculis parallelis rima longitudinali dehiscentibus. *Ovarium* 4-loculare, loculis uniovulatis, ovulo in sp rmophoro angulo centrali adnato pendulo. *Stylus* filiformis, exsertus, stigmate bifido acuto. *Drupa* calyci ampliato insidens vel inclusa, baccata vel carnosa, quadri- vel sæpius abortu mono-di-tripyrena, sæpius 2–4-loba, pyrenis maturitate distinctis unilocularibus, putamine lignoso lævi. *Semen* solitarium, erectum. *Cotyledones* oleosæ, applicitæ, *radicula* brevis infera.—Frutices *vel* arbores *inter tropicos veteris orbis, imprimis vero Asiæ, copiose, in America vero parce crescentes*. Folia *opposita vel terna, simplicia, integra vel rarius lobata, phyllopodio interdum prominenti persistenti insidentia.* Cymæ *trichotomæ vel axillares vel in paniculam terminalem collectæ. DC.*

Clerodendron *fœtidum;* foliis late cordatis pubescenti-pilosis grosse acuteque dentatis subtus ad nervorum axillis glandulosis, corymbis dense capitatis terminalibus, tubo corollæ longissimo calycem quintuplo excedente, limbo **4–5-partito.**

Clerodendron fœtidum. *Bunge, Mém. des Savans Etrang. de St. Pétersb. v. 2 p.* 126. *Walp. Repert. Bot. v. 2. p.* 126.

Clerodendron Bungei. *Steud. Nomencl. Bot. ed. 2. p.* 382.

A charming species of *Clerodendron* of northern China, first detected and described by Bunge, and more recently introduced to cultivation in our gardens by Mr. Fortune. We owe the possession of our plant to Messrs. Standish and Noble, and we have hitherto treated it as a greenhouse plant; but Messrs. Masters and Sons, of the Exotic Nursery, Canterbury, announce, in the 'Gardeners' Chronicle' (1854), that it stood out unharmed in the open air for six winters, till the winter of 1853–1854, but that in May of that year a sucker was protruded a foot from the ground, which attained a height of between three and four feet

before the autumn. It flowers in August, and the flowers were rather fragrant than fetid.

Descr. Our plant forms a small handsome bushy *shrub*, with upright downy *branches*, the younger ones, especially, beset with short rigid aculei, partially concealed in the tomentum. *Leaves* (on slender *petioles*, two to three inches long, channelled above), opposite, large in proportion to the size of the plant, five to seven inches long, broad, cordate, veined and reticulated, much acuminated, downy on both sides, the margin (except at the acumination) coarsely dentato-serrate. *Corymbs* large, terminal, compound, hemispherical, their *branches* and *pedicels* downy. *Flowers* very numerous, compact. *Calyx-tube* oval-cylindrical, downy; *limb* of five erect or slightly incurved acute teeth. *Corolla* infundibuliform, with the tube very long and slender, twice as long as the limb is broad, and three or four times longer than the calyx including the limb: *corolline limb* spreading horizontally, deep bright lilac, cut nearly to the base with five obovate lobes. *Stamens* four, much exserted: *filaments* slender, filiform, two a little shorter than the other two: *anthers* dark purple, oblong, versatile. *Ovary* globose: *style* slender, filiform, glabrous, longer than the corolline tube, but shorter than the filaments: *stigma* slightly clavate, bifid.

Fig 1. Flower. 2. Pistil.

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Tab. 4881.

PHYGELIUS Capensis.

Cape Phygelius.

Nat. Ord. Scrophulariaceæ.—Didynamia Gymnospermia.

Gen. Char. Calyx 5-partitus. *Corollæ tubus* elongatus, incurvus, limbi valde obliqui laciniis rotundatis. *Stamina* declinata, exserta, quinti *rudimentum* ad basin corollæ minimum. *Antherarum loculi* paralleli, apice vix confluentes. *Capsula* valde obliqua, loculo postico multo majore, apice tardius septicide dehiscens, valvulis integris? vel irregulariter disruptis? *Semina* ovoidea, subangulata; *testa* crassiuscula, spongiosa.—Genus *Austro-Africanum*, foliis *Scrophulariæ*, inflorescentia *et* floribus *Pentstemoni* affine. *Benth.*

Phygelius *Capensis.*

Phygelius Capensis. *E. Mey. MSS.* *Benth. in Comp. to Bot. Mag. v. 2. p. 53.*
Fielding, Sert. Plant. t. 66, 67. *Benth. in De Cand. Prodr. v. 10. p. 300.*

This beautiful plant, only recently discovered in Caffreland, at Witbergen, on the sides of streams, by Drege, has very little the habit of a plant of those regions, but reminds one singularly of the *Pentstemons* of North America. It was named *Phygelius* by Ernest Meyer, probably from φυγη, *flight, shunning*, or *eschewing*; in consequence of its having so long escaped the researches of botanists. Our noble flowering specimen was sent by Messrs. Veitch, of the Exeter and Chelsea Nurseries, where it came to great perfection in the open border in the summer months, and promises to ripen seed: if it does, the plant will prove a great acquisition to our gardens. It will, too, in all probability, increase by cuttings, for the lower part of the plant at least is perennial and shrubby: but it may require a greenhouse to protect it in the winter. The Witbergen is, we believe, however, a very elevated mountain; though we know not the height of the locality of this plant above the level of the sea,—probably sufficiently to justify an opinion of its being perfectly hardy.

Descr. *Plant* two to three feet high, including its panicle, erect, below shrubby, above herbaceous, branched, everywhere glabrous; *branches* four-sided, angles winged. *Leaves* opposite, the lower ones moderately large, four to five inches long (ex-

clusive of the petiole, which is two or two and a half inches long, deeply channelled above, and auricled at the base on each side), ovate, scarcely acuminate, serrated, penniveined, and reticulated with transverse veins. The leaves gradually become smaller upwards. *Panicle* pyramidal; *rachis* four-angled, winged; *branches* corymboso-racemose; *pedicels* curved downwards, with all the *flowers* secund and drooping. *Calyx* with the tube short, cup-shaped, obtuse at the setting on of the pedicel: *limb* of five, spreading, ovato-acuminate, spreading segments. *Corolla* tubular, funnel-shaped: the *tube* very long, curved, the base dilated and inflated: *limb* very oblique, of five, spreading, ovate segments: the colour is fine deep red, yellow at the base of the limb. *Stamens* four, exserted, didynamous: *filaments* inserted a little below the mouth of the corolla, but their base is decurrent within the tube: *anthers* oval, erect, free. *Ovary* ovate. *Style* longer than corolla and stamens. *Stigma* obtuse.

Figs. 1, 2. Portion of stem and leaves:—*nat. size.* 3. Corolla laid open. 4. Anther. 5. Pistil. 6. Transverse section of ovary:—*magnified.*

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Tab. 4882.

SOBRALIA FRAGRANS.

Fragrant Sobralia.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4632.)

Sobralia *fragrans;* humilis, glaberrima, caule pedunculoque ancipitibus, spatha biflora carinata diphylla herbacea nunc foliacea, floribus parvis parum apertis, labelli lobo medio cuneato bilobo lacero lateralibus obsoletis integerrimis venis 9 lacero-cristatis. *Lindl.*

Sobralia fragrans. *Lindl. in Gard. Chron.* 1853. *p.* 598. *no.* 5. *Fol. Orchid. Part* 5. *n.* 12.

A very pretty, fragrant, small *Sobralia*, native of New Granada, in the province of Ocaña, where it appears to have been discovered by Schlim, and is probably introduced to our English stoves by way of Belgium. Dr. Lindley describes it from specimens sent by Linden, and from the living plant in the collection of R. Hanbury, Esq. We are indebted for the individuals here figured to Messrs. Henderson, of St. John's Wood. They differ a little from Dr. Lindley's description, in having the sepals and petals of the same uniform pale sulphur-colour (not the sepals dull purplish-green), and in the flowers not being in pairs, but solitary, perhaps from want of vigour in our plant.

Descr. Terrestrial. The *stems* are about a foot high, clustered, several from one root, compressed, the lower half sheathed with the base of the lower leaf, and with several scales near the root. *Leaves* one to two, oblong-lanceolate, four to five inches long, rather fleshy, glabrous (as is every part of the plant), longitudinally nerved, the nerves prominent beneath. *Peduncle* terminal, long, compressed or ancipitate, bearing at the end two or three lanceolate, more or less leafy, carinate, green *bracteas*, the outer two to three inches long: from within these the *flower* emerges, small for the genus, two inches long, fragrant, pale sulphur-yellow, a little inclining to green. The flower is moderately expanded. *Sepals* spreading, oblong-lanceolate: *petals* of the same

shape, but closing over the column. *Lip* moderately large, obovate or cuneate, the side lobes obsoletely, confined to the involute lower margin; middle lobe large, spreading, beautifully crisped and fimbriated; the disc has a deep tinge of yellow. Throughout the whole length of the lip run nine elevated lines or lamellæ, which are delicately fringed towards the apex of the lip. *Column* semiterete, club-shaped: the *anther* sunk into a cavity (clinandrium) at the extremity.

Fig. 1. Lip. 2. Column. 3. Pollen-masses:—*magnified.*

Tab. 4883.

BILLBERGIA RHODOCYANEA.

Blue and red Billbergia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4756.)

Billbergia *rhodocyanea;* foliis erecto-patulis exterioribus recurvatis omnibus rigidis lingulatis basi dilatato-amplexantibus canaliculatis spinis nigris marginatis minute striolatis glauco-viridibus transversim albo-fasciatis apice spinoso-apiculatis, scapo foliis breviore, thyrsoque capitato multibracteatis, bracteis lanceolato-acuminatis spinoso-serratis omnibus roseis subfurfuraceis, alabastris roseis, floribus albis apice purpureo-cæruleis.

Billbergia rhodocyanea. *Lemaire in Van Houtte, Flor. der Gewchshsr. v.* 3. *p.* 207. *Walp. Ann. Bot. v.* 1. *p.* 838.

Received at the Royal Gardens of Kew from Belgium under the above objectionable name—a compound of Greek and Latin. We find no locality given. South America abounds in beautiful plants of this and of allied genera, which are eminently worthy a place in our stoves, and which are neglected by the herbalist because they are so troublesome to dry. The present species has its dark-green leaves elegantly banded with interrupted lines of white; the bracts rose-colour, the rather large corollas white tipped with blue.

Descr. *Plants* tufted. *Leaves* radical, outer a foot or a foot and a half long, reflexed, inner gradually shorter and more upright, all ligulate, obtuse, with an acuminated mucro, the sides incurved, so that the leaf is channelled and almost semicylindrical, the colour externally dark green, occasionally tinged with dull purple, banded transversely with slightly wavy interrupted white lines, the apex is free from these bands, upper or inside of the leaves uniform yellow-green; the margin is beset with very sharp, slightly curved, black spinules or prickles, all pointing upwards. *Scape* shorter than the leaves, and almost entirely concealed by

them, bracteated, *bracteas* lanceolate, very much acuminated, rose-coloured, farinose, spinuloso-serrated at the margin. *Flowers* arranged in a capitate *thyrsus*, clothed with numerous imbricating rose-coloured bracteas, resembling those of the scape, concealing the flowers till they are nearly expanded. *Calyx-tube* oval, incorporated with the ovary, yellowish, downy; *limb* of three, rose-coloured, erect, ovate, downy, blunt segments. *Corolla* of three, linear-oblong or spathulate, erect, slightly convolute, very obtuse; *petals* rose-colour in bud, when perfect white, gradually passing into blue at the tips, the margin here and there with a subulate slender tooth. *Scales* at the base of the petals oblong, fringed at the apex. *Stamens* shorter than the petals. *Anthers* linear, acute. *Style* a little shorter than the stamens: *stigma* trifid, segments cuneate.

Fig. 1. Flower. 2. Petal, stamens, and scales. 3. Pistil:—*magnified.*

Tab. 4884.

SALVIA asperata.

Rough-leaved Sage.

Nat. Ord. Labiatæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4874.)

Salvia *asperata ;* caule herbaceo-glanduloso pubescente et piloso, foliis petiolatis late subcordato-ovatis breviter acuminatis eroso-crenatis ramosissimis villosis subtus vix canescentibus floralibus latis acuminatis herbaceis plerisque calyces superantibus, racemis subramosis, verticillastris distantibus 6–10-floris, calycis campanulati hispido-ciliati labio superiore subtridentato dente supremo minimo cæteris rectis vel subincurvis spinuloso-acuminatis, corollæ tubo calycem æquante galea falcata compressa.

Salvia asperata. *Falconer, MSS. Benth. in De Cand. Prodr. v.* 12. *p.* 282.

Drawn from a plant that flowered in the open border of the Royal Gardens of Kew in the summer of 1855. The seeds were sent from Cashmere to Isaac Anderson,* Esq., of Maryfield, Edinburgh, to whom we are indebted for the specimen here figured. We know it to be identical with the *S. asperata* of Falconer, in De Cand. Prodr. l. c.; but we are almost disposed to consider it a variety of *S. Sclaræa*, to which *S. Simsiana*, Ker, Bot. Reg. t. 1003, and *S. bracteata*, Sims, Bot. Mag. t. 2320, should be referred. Mr. Bentham further notices the affinity of this species with *S. Tingitana* and *S. Palestinæ*, "sed imprimis foliorum forma differt."

Descr. Our plant grows to the height of about two feet, and is more or less branched from near the root. *Stem* erect and (as well as the four-sided branches) hairy, the hairs mixed with glan-

* We have committed an unintentional error in saying at our Tab. 4874 that the Californian *Salvia carduacea* blossomed in and was derived from the Exeter and Chelsea Nurseries. It was indeed communicated to us by Messrs. Veitch, and along with other Californian plants from thence; but it was accidentally omitted to be stated that it was introduced to this country by the gentleman above mentioned, Isaac Anderson, Esq., of Maryfield, Edinburgh, and by that gentleman obligingly communicated to us through Messrs. Veitch, as they now inform us. We are very glad to have the opportunity of correcting this error.

dular pubescence. *Leaves* (the lower ones on long *petioles*), the upper ones sessile, ovate or ovato-oblong, cordate at the base, subacute, coarsely and duplicately dentato-serrate, villous, the surface wrinkled and asperate, with raised areolæ of the reticulated veins, paler, and somewhat downy beneath. *Floral spikes* very long. *Whorls* of from six to eight nearly sessile *flowers;* each whorl subtended by a pair of opposite, sessile, large, broad-ovate, sharply acuminated, spreading or reflexed, striated, submembranaceous *bracts*, pale-green, with streaks of greenish-white. *Calyx* campanulate, nearly as long as the tube of the corolla, hispid, two-lipped: upper lip of three, sharp, spinulose teeth, of which the intermediate one is the shortest; lower one two-toothed. *Corolla* greenish-white: *tube* curved, cylindrical, one-third the length of the limb: *limb* two-lipped: upper lip longer than the lower one, oblong, falcate, compressed, pubescent, and hispid; lower lip three-lobed, intermediate lobe sarcate, hairy externally. *Stamens* included. *Ovary* four-lobed, seated on a large fleshy disc. *Style* very long, but included with the compressed, upper lip: *stigma* of two, unequal, subulate segments, a little exserted.

Fig. 1. Corolla. 2. Pistil:—*magnified.*

4885

Tab. 4885.

STANHOPEA ecornuta.

Hornless Stanhopea.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. Perianthium membranaceum, patentissimum vel reflexum. *Sepala* libera, subundulata, mole sua ruentia. *Petala* conformia, angustiora. *Labellum* liberum anticum; dimidio superiore (epichilio) convexo, inferiore (hypochilio) excavato. *Columna* longissima, petaloideo-marginata. *Anthera* bilocularis. *Pollinia* 2, elongata, fissa, caudicula quam glandula biloba stipitata breviore.—Epiphyta *pseudobulbosa*. Folia *plicata*. Scapi *radicales*, *vaginati*, *pauciflori*. Flores ***maximi, magis minusve maculati. Lindl.***

Stanhopea *ecornuta;* scapo brevi pendulo, bracteis ovario brevioribus, sepalis petalisque minoribus ovatis obtusis carnosis concavis, labello calceiformi obtusissimo ecornuto margine antico tuberculato, columna brevissima carnosa sinuato-lobata. *Lindl.*

Stanhopea ecornuta. *Lemaire, in Flore des Serres, p.* 181, *Dec.* 1846. *Paxton, Flow. Gard. Gleanings, no.* 54. *ic.* 20. *Reich. fil. Bot. Zeit.* X. 1852, *p.* 836. *Lindl. Fol. Orchid. Part* 1. *p.* 8.

Stanhopeastrum ecornutum. *Reich. fil. in Mohl et Schlecht. Bot. Zeit.* X. 1852, *p.* 927. *Xenia Orchid. tab.* 43.

From the collection of Mr. Loddiges, at Hackney, who received it from Central America. I am indebted to Dr. Lindley for the following remarks, which are of more value than the most elaborate description, on this curious Orchid:—

"This plant was first published by Professor Lemaire in the 'Flore des Serres,' of December, 1846; and from that work it was taken up in my 'Folia Orchidacea' (October, 1852), with the suggestion that it might be 'a monster of some kind; for instance, of *S. tricornis*.' Immediately afterwards Professor Reichenbach, jun., announced (B. Zeit. Dec. 24, 1852) that he had examined it, and ascertained that it was no monster, but a new genus, *Stanhopeastrum*, 'uniting *Peristeriaceæ* and *Stanhopeaceæ*.' This opinion my learned friend still entertains. When I ventured to suggest the possibility of the plant being a monster, I had not seen it. Now that a living specimen has been under

my observation, I entertain much the same opinion as before. It is true that the separation of epichil, mesochil, and hypochil, so remarkable in *Stanhopea*, does not occur in this plant; that there is an elevated table in the middle of the hollow of the lip; and the column, instead of being long and winged, is short, fleshy, and wingless. But, on the other hand, the habit of the plant is so exactly that of *Stanhopea*, that Mr. Loddiges, from whom the specimen which furnished the drawing was received, always supposed it to be *S. grandiflora*. Nor does its mode of flowering present any the smallest difference from *Stanhopea cirrhata*, a plant from nearly the same country. That same species has also a wingless, short, fleshy column; its epichil is equally undivided, the mesochil is scarcely distinguishable, and the hypochil has a pair of fleshy horns, which answer to the lateral tumours in the lip of the species before us. With regard to the elevated table in the middle of the lip, upon which the claim of *Stanhopeastrum* to be a genus must chiefly rest, I would point to the great tabular mesochil of *S. grandiflora* and *quadricornis* as indicating a tendency towards the same structure. Upon the whole, after weighing all the evidence that is attainable with regard to this question, that which I originally hazarded as a conjecture has become a conviction, and I entertain no doubt that we shall eventually discover proof that *Stanhopea ecornuta* is a mere form of some such plant as *S. cirrhata*." *Lindl.*

It is only justice to the learned Professor Reichenbach, jun., to say that, since the above was communicated to us, he abandons the views he held on the subject of the generic distinction of this plant, and entirely agrees with those of Dr. Lindley.

Fig. 1. Column and lip. 2. Front view of the lip. 3. Front view of the column. 4. Pollen-masses:—*all more or less magnified.*

TAB. 4886.

DENDROBIUM MacCARTHIÆ.

Mrs. MacCarthy's Dendrobium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4755.)

DENDROBIUM *MacCarthiæ*; caulibus pendulis flagelliformibus teretibus striatis versus apicem foliosis, nodis parce tumidis, racemis axillaribus 4–5-floris, floribus magnis dilute purpureis, sepalis lanceolatis acutis petala multo latiora ovato-lanceolata longitudine fere æquantibus, labello subtrilobato vel subtrapeziformi apice rotundato retuso, foliis lanceolatis.

This beautiful species of *Dendrobium*, which appears hitherto to have escaped the observation of botanists in Ceylon, occurs sparingly, pendent from the trunks of large trees, in the forests about Ratuapoora and towards Galle, where it seemed to be pretty generally known to the natives under the name of "*Wis-sak-mal*," the meaning of which is "Rainy-month flower," or "May-flower."

With this charming plant, which is certainly the most beautiful of the Ceylon *Orchidaceæ*, I wish to be associated the name of my excellent friend Mrs. MacCarthy, the accomplished lady of the Honourable C. J. MacCarthy, Esq., Colonial Secretary of the island, to whose kindness and regard for science I have been indebted for many facilities in pursuing my investigations.

DESCR. *Stems* simple, one and a half to two feet long, of about the thickness of a goose-quill, striated, slightly swollen at the joints; internodes one to one and a half inch long. *Leaves* few at the upper part of the stem, lanceolate, two and a half to three inches long and from three-quarters to one inch wide. *Racemes* one to three, each one in the axil of a leaf, four- or five-flowered; *peduncles* with several sheathing bracts at the base; *pedicels* whitish, about one and a quarter inch long. *Flowers* handsome, nearly three inches long and three and a half inches wide, flattened vertically, pale purple. *Sepals* narrow-lanceolate, nearly equalling in length the much wider oblong-lanceolate *petals*;

lip of the same length as the petals, somewhat trapeziform, rounded at the apex, retuse, scarcely three-lobed, somewhat carinated above, white, with numerous small purple spots on the throat, a large dark purple blotch on the disc, and the apex broadly margined with paler purple, with about seven dark purple longitudinal streaks. *Column* white, slightly tinged with purple, subquadrate, with two truncated erect or slightly reflexed horns, between which is situated the helmet-shaped, purplish *anther-cell;* the four narrow yellow *pollen-masses* cohere into an oblong mass.

Fig. 1. Column and anther-case :—*magnified.*

Tab. 4887.

DELPHINIUM CARDINALE.

Scarlet-flowered Larkspur.

Nat. Ord. Ranunculaceæ.—Polyandria Trigynia.

Gen. Char. Calyx deciduus, petaloideus, irregularis, *sepalo* nempe superiore in calcar deorsum producto. *Petala* 4; 2 superiora basi in appendicibus intra calcar contentis producta. *De Cand.*

Delphinium *cardinale;* glabra elata, foliis (ratione plantæ) amplis longe petiolatis digitato-quinquepartitis laciniis cuneato-lanceolatis simplicibus vel 3–5-fidis, segmentis longe-acuminatis, caulinis paucis sensim minoribus simplicioribus, panicula elongata, floribus intense coccineis, sepalis late ovatis obtusis, petali inferioris limbo bifido duobusque interioribus versus apicem pilosis, calcare rectiusculo floris longitudine, ovariis glabris.

Blue or purple or white *Larkspurs* are familiar to us in our gardens. We have now the pleasure of making known a species of *Delphinium* equalling if not surpassing any other in the size and symmetry of the plant, and excelling in the brilliancy of colour of the flower, and that as rich a scarlet as can well be looked upon. It is one of the many novelties detected by Mr. Wm. Lobb in California, and introduced to our gardens by Messrs. Veitch and Sons, of the Exeter and Chelsea Exotic Nurseries. Treated as a hardy annual, it cannot fail to be a great favourite with all lovers of handsome flowers. The United States Exploring Expeditions have likewise met with this rarity on their overland journeys to California, and specimens we know are in Dr. Torrey's possession, but the plant has not been published. Our plants were in great perfection in August.

Descr. Cultivated specimens are from two to three feet high, a good deal taller than our native dried specimens. The *leaves* are for the most part radical, and these on very long, stout, terete *petioles* or *stalks*, glabrous, as is almost every part of the plant, more than a span across, digitately divided, almost to the base, into five primary spreading cuneate-lanceolate segments, strongly nerved: the circumference represents a cordate outline: the segments are either simple and much acuminated and narrow, or

they are broader and more or less deeply divided in two to five lesser segments or lobes, which are also much acuminated; the *cauline leaves* are few, gradually smaller upwards, with shorter petioles, fewer segments, at length gradually passing into the simple, sessile, lanceolate *bracts* of the terminal panicle. This *panicle* (a compound *raceme*) is elongated, bearing many large exceedingly showy *flowers*, on long erect *pedicels*, which have a pair of opposite subulate *bracts*, and are pubescent. *Flowers* slightly drooping, nearly two inches long, including the spur, of a rich scarlet colour, except the petals, which are partially deep yellow. *Sepals* five, broad-ovate, very obtuse; *spur* as long as the flower, gradually tapering and slightly ascending, scarlet to the tip. *Inner petals* with appendages or *spurs* of the same shape, running down into the spur of the calyx; the *limb*, as well as that of the lesser petals, pilose. *Stamens* numerous; *anthers* oblong, bright yellow. *Ovaries* three, erect, glabrous, tapering into short subulate *styles*.

Fig. 1. Flower, from which the calyx is removed. 2. Ovaria:—*magnified*.

Tab. 4888.

CORDIA superba.

Large White-Flowered Cordia.

Nat. Ord. Borragineæ (Cordieæ).—Pentandria Monogynia.

Gen. Char. Calyx tubulosus, obovatus campanulatusve, 4–5-dentatus, rarius 3- seu 6–8-dentatus. *Corolla* infundibuliformis vel hypocraterimorpha, limbo 4–5-partito, rarius 6–12-lobo. *Stamina* tot quot lobi, corollæ tubo inserta. *Stylus* bis bifidus, sæpius exsertus. *Drupa* ovata aut globosa, pulposa, calyce persistente sæpius cincta, nunc in ovario 4-locul. post anthesin abortu ad loculos 1–3 sæpe reducta, loculis 1-spermis.—Arbores *aut* frutices *regionum orbis calidarum incolæ.* Folia *alterna aut rarissime subopposita, petiolata, formâ varia, integerrima aut dentata.* Flores *dispositione varii, interdum abortu polygami aut monoici.* Corollæ *fere omnium albæ. De Cand.*

Cordia (Sebestenioides) *superba;* arbuscula, ramis teretibus, petiolis pedunculisque vix scabridis, foliis petiolatis cuneato-oblongis subito acuminatis, venis primariis subtus valde prominulis, cyma terminali dichotomo-corymbosa, floribus sessilibus, calyce cylindrico submembranaceo apice irregulariter rupto ante anthesin subclavato mucrone umbonato, corollæ (albæ) fauce longe infundibuliformi, limbi lobis amplis rotundatis plicatis, staminibus 5, filamentis inferne hirsutis.

Cordia superba. *Cham. in Linnæa,* 1829, *p.* 474. *De Cand. Prodr.* 9. *p.* 476.
Cordia Sebestena. *Vell. Fl. Flum. v.* 2. *p.* 251.

This large-flowered *Cordia* was sent to us by M. Chantin, nurseryman in Paris, without any specific name, or any indication of its origin. We refer it, with little hesitation, to the *C. superba* of Chamisso in the 'Linnæa' above quoted, with his description of which it sufficiently accords, though he says nothing of the colour of the flowers. That author notices two varieties (if they are worthy to be so considered), viz. *α. cuneata* and *β. elliptica*, and De Candolle refers to the *C. Sebestena* of Vellozi, Flora Flumin. ii. p. 151, which indeed is a very fair representation of our plant. If we are correct in our views, the species is a native of tropical Brazil. It is treated as a stove-plant, and flowers in September. Unless the term *superba* is significant of unusual size of flower and foliage, this species of *Cordia* scarcely deserves that appellation.

December 1st, 1855.

Descr. At present our plant forms a *shrub* from two to three feet high. The *branches* are stout, terete, smooth. *Leaves* a good deal confined to the ends of the branches, large, six to eight inches long, elliptical-cuneate, somewhat waved, entire, dark-green, acuminate; the principal *nerves* impressed above, prominent beneath. *Peduncle* terminal, as long as the leaf, bearing a dichotomously divided *cyme* of very large white blossoms tinged with dull yellow, each sessile on a somewhat scorpoid branch. *Calyx* greenish-white, cylindrical-clavate, bursting at the top irregularly. *Corolla* very large, plaited, infundibuliformi-campanulate; the lobes broad and rounded, spreading. *Stamens* five, inserted on the narrow part of the tube, included: *filaments* hairy at the base: *anthers* oblong arrow-shaped, extrorse. *Ovary* subglobose. *Style* rather exceeding the stamens in length: *stigma* twice bifid, segments clavate.

Fig. 1. Portion of the corolla with the stamens laid open. 2. Pistil. 3. Transverse section of ovary:—*magnified*.

Tab. 4889.

CŒLOGYNE speciosa.

Showy Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4440.)

Cœlogyne *speciosa;* pseudobulbis ovato-oblongis costatis monophyllis, foliis oblongo-lanceolatis 5–7-nerviis, pedunculis 1–2-floris pseudobulbis parum longioribus, petalis linearibus reflexis, labelli trilobi laciniis lateralibus antice denticulatis intermedia biloba rotundata cristis duabus muricatis crassis sub apice ipso labelli confluentibus tertia brevi tenui basilari interjecta.

Cœlogyne speciosa. *Lindl. Gen. et Sp. Orchid. p.* 39. *Bot. Reg.* 1847. *t.* 23.

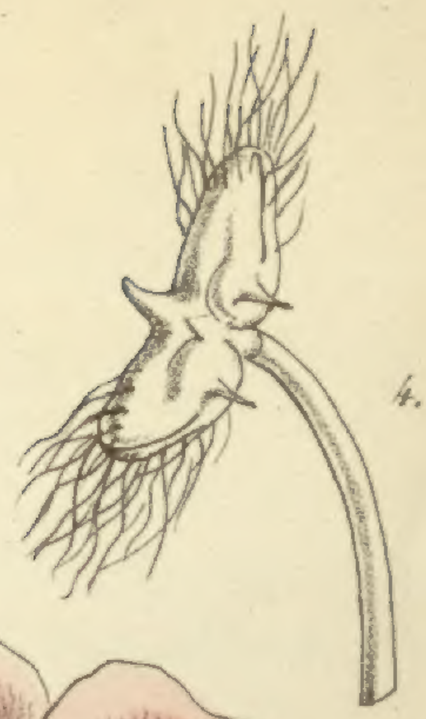
Chelonanthera speciosa. *Blume, Bijd.* 384. *t.* 51.

This very fine species of *Cœlogyne* was first imported by the Messrs. Veitch, of the Exeter and Chelsea Exotic Nurseries, through their collector, Mr. Thomas Lobb, from Java. It produced its blossoms with them in 1846; and it has proved, as the Messrs. Veitch stated it would do, a "free-growing and a free-flowering plant." Messrs. Rollison favoured us with a fine plant from their nursery, which they received direct from their collector in Java in 1847. The lip of the flower is a beautiful object, both in the colour and marking, and in the exquisite fringe of the crests and margin.

Descr. *Pseudobulbs* clustered, between ovate and oblong, compressed and marked with elevated ribs, bearing a single elliptical-lanceolate, acuminate, membranaceous, striated, and plaited *leaf* on the summit. From within a young channelled or grooved *leaf* (the scarcely formed *pseudobulb* being sheathed with imbricated *scales*) arises a *flower-stalk*, much shorter than the *leaf*, bearing one or two drooping *flowers* of a very large size, but possessing no brilliancy of colour. *Sepals* broad lanceolate, the lateral ones the longest and narrowest, the intermediate one broader and less acuminated, carinated, all of a pale olive-green. *Petals* very long, linear, of the same colour as the *sepals*,

deflexed. *Lip* very large, the principal ground-colour yellow, variously tinged and blotched and veined with rich blood-red or pitch colour; the apex white. The form is oblong; it is three-lobed, the lateral *lobes* small, resembling ears, the latter and the margin of the broad two-lobed middle *lobe* or segment fringed. Two long *crests* run nearly the whole length of the *lip;* these are copiously fringed with pedunculated (*peduncles* often bifid), stellated hairs, and are beautiful objects for the microscope. *Column* large, semiterete, winged, crested at the top, below which summit is sunk the *anther-case*, enclosing the four *pollen-masses*, united by a large gland.

Fig. 1. Column and anther. 2. Pollen-masses. 3. Lip, front view. 4. Fringe of the crests of the lip:—*magnified.*



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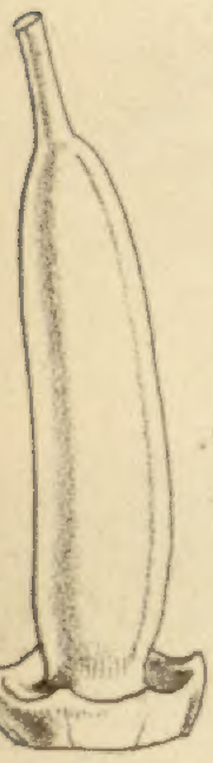

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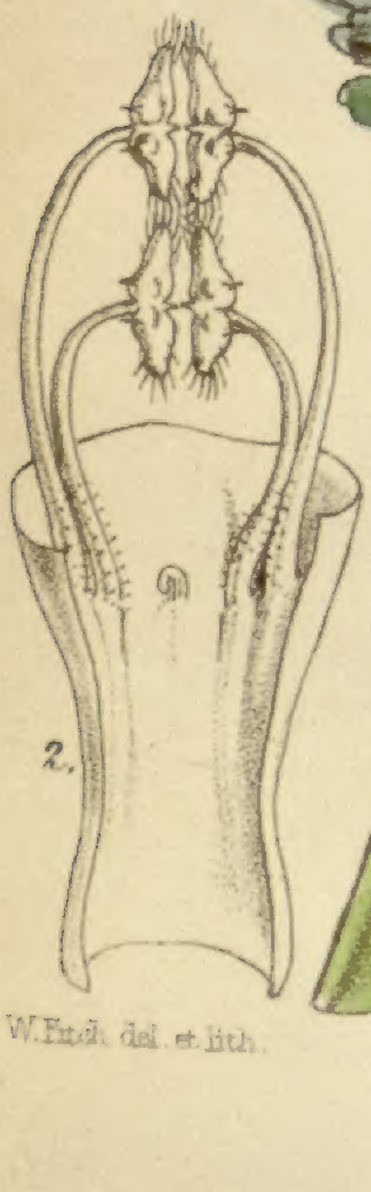

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W. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4890.

AMPHICOME Emodi.

Emodian Amphicome.

Nat. Ord. Bignoniaceæ.—Didynamia Gymnospermia.

Gen. Char. Calyx oblongo-campanulatus, 5-dentatus aut sub-5-fidus, lobis acuminatisve, sinubus nudis. *Corolla* longe infundibuliformis, limbo 5-lobo, subbilabiato, lobis subæqualibus rotundatis. *Stamina* 4, didynama, fertilia, quinto sterili subulato. *Antheræ* per paria stylo arcte adpressæ, lobis pilosis calcarato-aristatis, connectivo appendiculato. *Discus* hypogynus, cyathiformis. *Ovarium* lineare. *Stylus* filiformis. *Stigma* bilamellatum. *Capsula* siliquæformis, sutura altera dehiscens, septo libero. *Semina* plurima, appensa, utrinque pilis distinctis comosa.—Herbæ *Himalayenses, erectæ, glabræ.* Caules *teretes, perennantes aut annui, basi radicantes.* Folia *alterna, petiolata, pinnatisecta; segmentis* 2–3-*jugis cum impari ovato-lanceolatis, dentato-serratis.* Racemi *terminales, laxi, pauciflori.* Corollæ *roseæ. DC.*

Amphicome *Emodi;* foliolis cordato-ovatis petiolulatis obtusis crenato-lobatis, floribus erectis subcorymbosis (demum racemosis), calycis lobis abbreviatis obtusis granulosis, corollæ tubo infundibuliformi-campanulato limbi æqualis lobis amplis rotundatis emarginatis patentibus, ovario oblongo, annulo hypogyno ab ejus basi remoto.

Amphicome Emodi. *Lindl. in Bot. Reg.* 1838, *sub Tab.* 19. *De Cand. Prodr. v.* 9. *p.* 237.

Incarvillea Emodi. *Wall. Cat. n.* 487.

This, a discovery of Dr. Wallich, is the original or first species of *Amphicome* (Incarvillea, *Wall.*); a genus of Northern India, consisting of two species, which Dr. Royle judiciously, we think, proposed to separate from *Incarvillea,* but which, at the suggestion of Mr. Brown, he referred to a section of the last-named genus. The *A. arguta,* however, a species very different from this, was that first known in cultivation, and it has been well figured by Dr. Royle in his 'Himalayan Flora,' and by Dr. Lindley in the Bot. Register (1838, Tab. 19), from garden specimens. The last-mentioned author speaks of this "as the much finer species, with much larger and more numerous flowers, a more robust foliage, and much more considerable stature;" but which "still remains to be introduced."

In 1852 we had the pleasure to receive native seeds from

Major Vicary, and our plant, here figured, blossomed at Kew under a cool frame in October, 1855. It is indeed a remarkably handsome plant; native of the mountains of Emodi, near Srinaghur, and on the Suen range of hills.

Descr. *Root* perennial. *Stem* annual, and, as is the whole plant, glabrous, one to one and a half foot high, slightly branched. *Leaves* a span and more long, especially the radical ones, imparipinnate, with about five to seven pairs of opposite, cordato-ovate, obtuse, shortly (but evidently) petiolulate *leaflets*, their margins crenato-lobate. *Peduncles* terminal, leafless, or only with two or three cuneate bracts. *Flowers* large, handsome, at first corymbose; as the fruit ripens racemose. *Pedicels* short, bracteated. *Calyx-tube* turbinate, thick, fleshy: *limb* of five, short, obtuse, thick, granulated teeth. *Corolla*, with the *tube* between infundibuliform and campanulate, orange. *Limb* very large, of five, spreading, rounded, emarginate, rose-coloured *lobes*. *Stamens* included, inserted on the contracted portion of the tube of the corolla, didynamous: *filaments* curved, so that the *anthers* meet in two pairs: their *cells* diverging, and bearing each a long tuft of hair and a spine at the back. *Ovary* oblong, shortly stipitate, surrounded by an hypogynous *ring*. *Style* filiform. *Stigma* of two, large, spreading laminæ.

Fig. 1. Calyx and pistil. 2. Lower part of the corolla (laid open), with stamens. 3. Anthers. 4. Ovary and hypogynous ring:—*magnified*.